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M E M O R A N D U M

TO: John Mitnik, Chief, Engineering and Construction Bureau
Paul Linton, Administrator, Water Control Operations Section

FROM: SFWMD Staff Environmental Advisory Team

DATE: August 16, 2016

SUBJECT: Weekly Environmental Conditions for Systems Operations

Summary

Kissimmee

On Sunday, stages in East Lake Toho, Lake Toho, and Kissimmee-Cypress-Hatchineha were below schedule by 0, 0, and 0.1 feet, respectively. Over the past week, discharge at S65, S65A, and S65E averaged 532, 661, and 1,137 cfs, respectively. Tuesday morning discharges were ~502 cfs, ~611 cfs, ~1,148 cfs, and ~1,185 cfs, respectively at S65, S65A, S65C, and S65E. Dissolved oxygen in the Kissimmee River averaged 4.09 mg/L over the past week and 4.22 mg/L on Sunday. Kissimmee River mean floodplain depth on Sunday was 0.45 feet. There are no new recommendations for this week.

Lake Okeechobee

Lake Okeechobee is at 14.77 feet NGVD having increased by 0.14 feet over the past week. The Lake remains in the Low Flow Sub-band. Lake levels are approximately 0.5 feet too high for this time of year and there is a potential for negative impacts to submerged aquatic vegetation (SAV). Cyanobacterial bloom conditions on the Lake appear to have improved somewhat.

Estuaries

Total discharge to the St. Lucie estuary average 2,597 cfs over the past week with 460 cfs (17%) coming from Lake Okeechobee. Salinity at the US1 Bridge is in the fair range for oysters. Total inflow to the Caloosahatchee estuary average 4,632 cfs over the past week with 508 cfs (11%) coming from the Lake. Salinity conditions are good for tape grass in the upper estuary. Salinity conditions are good for oysters at the Sanibel Causeway and Shellpoint, but in the poor range at the Cape Coral Bridge.

Stormwater Treatment Areas

Over the past week, the STAs/FEBs received approximately 300 acre-feet of Lake regulatory releases. The total amount of Lake regulatory releases sent to the STAs/FEBs in WY2017 (since May 1, 2016) is approximately 58,600 acre-feet. All STA cells are at or above target depths. Operational restrictions are in place for vegetation rehabilitation in STA-1E and STA-5/6 and structure repairs are underway in STA-1E. In addition, nests of Endangered Species Act (ESA) protected species have been observed in STA-1E and STA-5/6. There is no capacity in the STAs or FEBs this week for Lake Releases.

Everglades

There was 1.28 to 2.74 inches of rainfall in the basin last week, resulting in increase in stages by 0.35 inches in some areas. The Refuge remains closed for airboat traffic because of low water; water levels need to increase in the northern part of the WCA-1. Ascension rates in WCA-1 should not exceed 0.25 feet per week. Two-week ascension rates in WCAs -2A and -2B have been very high at 0.69' and 0.81', respectively. Recommended ascension rates for WCA-2A remains at <0.25 feet per week. The

30-day moving average salinity at the Florida Bay MFL site remains at 0.6 psu. The cumulative five-creek inflow into Florida Bay has risen to 332,280-acre-feet with an average of 257,628 acre-feet.

Weather Conditions and Forecast

Showers/storms focused west this afternoon southeast predawn. Deep easterly flow dominates the skies over south Florida. Moisture and instability are near climatological normals. Look for activity to flare up over the interior this afternoon and move quickly westward into the early evening hours. An upper level low within the Tropical Upper Tropospheric Trough (TUTT) is expected to migrate northwestward to near the Upper Keys overnight. This scenario may trigger a few thunderstorms near the southeast coast predawn. The TUTT low should then help increase showers/storms south of the Lake tomorrow afternoon. Look for showers/storms to shift focus more interior and around the Lake late in the week as steering flow weakens and becomes more southerly.

KESSIMMEE BASIN

Kissimmee Basin Rainfall

The Upper Kissimmee Basin received 2.26 inches of rainfall in the past week and the Lower Basin received 1.83 inches (SFWMD Daily Rainfall Report 08/16/2016).

Upper Kissimmee Basin

Stages and departures in the Kissimmee Chain of Lakes (KCOL) are shown in Table1.

Table 1. Departures from KCOL flood regulation (F) or temporary schedules (T, A, or S) (feet NGVD). Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 8/16/2016							Sunday Departure (feet)						
Water Body	Structure/Site	Discharge (cfs), week's average**	Stage Monitoring Site***	Lake Stage (feet)	Schedule*	Regulation (R) or Target (S or T) Stage (feet)	8/14/16	8/7/16	7/31/16	7/24/16	7/17/16	7/10/16	7/3/16
Lakes Hart and Mary Jane	S62	127	LKMJ	60.0	R	60.0	0.0	0.1	0.1	0.1	0.0	0.1	0.0
Lakes Myrtle, Preston, and Joel	S57	33	S57	61.0	R	61.0	0.0	0.0	0.0	-0.1	0.1	0.0	0.0
Alligator Chain	S60	199	ALLI	63.2	R	63.2	0.0	0.1	0.0	0.1	0.0	0.0	-0.1
Lake Gentry	S63	302	LKGT	61.0	R	61.0	0.0	0.1	0.1	-0.1	0.2	0.0	0.0
East Lake Toho	S59	270	TOHOE	56.5	R	56.5	0.0	-0.2	-0.1	-0.1	-0.1	-0.3	-0.5
Lake Toho	S61	751	TOHOW, S61	53.5	R	53.5	0.0	0.0	-0.1	-0.1	-0.3	-0.4	-0.5
Lakes Kissimmee, Cypress, and Hatchineha	S65	532	LKISSP, KUB011, LKIS5B	50.9	R	51.0	-0.1	-0.5	-0.4	-0.4	-0.5	-0.4	-0.5

* T = temporary schedule, R = USACE flood control schedule, S = temporary snail kite schedule, A = projected ascension line, N/A= not applicable or data not available.

** Seven-day average of weighted daily means through Sunday midnight.

*** Names of in-lake monitoring sites and structures used to determine lake stage; if more than one site is listed, an average is reported.

DATA ARE PROVISIONAL

Lower Kissimmee Basin

Discharges and stages at Lower Basin structures are shown in Table 2. SFWDAT depth maps for the Phase I restoration area are shown in Figure 12. Kissimmee River floodplain stages at selected stations are shown in Figure 13.

Table 2. Mean weekly discharge at S65x structures, and mean weekly Phase I area river channel dissolved oxygen and floodplain mean water depth. Discharge and stage data are provisional real-time data from SFWMD OASyS DualTrend; reported values are averages through midnight of the Sunday prior to the report date unless otherwise specified.

Report Date: 8/16/2016

Metric	Location	Sunday's 1-day average	Weekly Average**									
			8/14/16	8/7/16	7/31/16	7/24/16	7/17/16	7/10/16	7/3/16	6/26/16	6/19/16	6/12/16
Discharge (cfs)	S-65	326	532	579	643	642	545	552	857	2431	3194	3940
Discharge (cfs)	S-65A	624	661	694	638	660	633	660	1211	2890	4455	5649
Discharge (cfs)	S-65C	1058	1081	1000	1219	1091	1119	1489	2741	4168	6224	5091
Headwater stage (feet NGVD)		34.1	34.1	34.3	34.1	34.0	34.1	34.2	34.0	34.1	34.1	34.1
Discharge (cfs)	S-65D****	1167	1142	1037	1284	1263	1272	1835	3108	4552	7361	5471
Discharge (cfs)	S-65E	1092	1137	986	1158	1181	1147	1755	2991	4458	7216	5255
DO concentration (mg/L)***	Phase I river channel	4.22	4.09	4.58	5.01	4.91	4.40	2.74	2.21	1.66	0.77	1.44
Mean depth (feet)*	Phase I floodplain	0.45	N/A	0.39	0.36	0.44	0.63	0.62	1.18	1.93	2.33	3.12

* 1-day spatial average from South Florida Water Depth Assessment Tool (SFWDAT).

** Seven-day average of weighted daily means through Sunday midnight.

*** DO is the average for PC62 and PC33 starting June 2. PC33 omitted for week of Aug16. DO for week of Sept 15-22 is for PC33 only.

**** S-65D discharge combines discharge at S-65D, S-65DX1, and S-65DX2

***** 1-day spatial average from field measurements in Pools A and BC

N/A Not applicable or data not available.

DATA ARE PROVISIONAL

Water Management Recommendations

Kissimmee Basin Adaptive Recommendations and Operational Actions

Date	Recommendation	Purpose	Outcome	Source
8/16/2016	No new recommendations.			
8/9/2016	No new recommendations.			
8/2/2016	No new recommendations.			
7/26/2016	No new recommendations.			
7/19/2016	No new recommendations.			
7/12/2016	No new recommendations.			
6/30/2016	Ramp down S65/S65A discharge by 150 cfs per day to 650 cfs and hold at 650 cfs until lake stage rises to Zone A of the schedule. When stage enters Zone A, ramp up S65 discharge to 1,400 cfs as stage rises from 0.0 to 0.6 feet above the regulation line unless there is a large rainfall event. This ramp up schedule will be reevaluated when the regulation schedule reaches 52.0 feet NGVD.	The ramp down in S65/S65A discharge is intended to lessen the impact of Lake Okeechobee releases on naturally occurring algal blooms. Holding discharge at 650 cfs reflects consideration for the Snail Kites nesting in the Kissimmee River floodplain.	Implemented	SFWMD Operations Control
6/28/2016	No new recommendations.			
6/21/2016	No new recommendations.			
6/14/2016	No new recommendations.			
6/7/2016	No new recommendations.			
5/31/2016	No new recommendations.			
5/24/2016	No new recommendations.			
5/17/2016	No new recommendations.			
5/10/2016	No new recommendations.			
5/3/2016	No new recommendations.			
4/26/2016	No new recommendations.			
4/19/2016	No new recommendations.			
4/12/2016	No new recommendations.			
4/5/2016	No new recommendations.			
3/29/2016	No new recommendations.			
3/22/2016	No new recommendations.			
3/15/2016	No new recommendations.			
3/8/2016	No new recommendations.			
3/1/2016	No new recommendations.			
2/23/2016	No new recommendations.			
2/16/2016	No new recommendations.			
2/9/2016	No new recommendations.			
2/1/2016	Begin F&W recessions in East Toho, Toho, and KCH per the requested recession lines shown in the 2015-16 Dry Season Standing Recommendation (SR). Use Table 2 for guidance on rates of change in discharge to control departures from the line in KCH, and the reversal guidelines shown in the SR for Toho and East.	Initiate and manage lake stage recessions in East Toho, Toho, and KCH for the benefit of fish and wildlife, while avoiding harm to the Kissimmee River	TBD	KB Tech Team
1/20/2016	Continue to adjust discharge at S65 to follow the 2015-16 Dry Season SR guidelines for rampdown at S65A. Balance discharge at the two structures to maintain at least minimum discharge to the river. As stage rises above 51 ft in KCH, temporarily bypass the Fig 1 discharge plan in the SR and manage discharge to let KCH stage rise to 51.5 ft (the Feb 1 recession starting stage) if conditions allow while following rampdown guidelines. If KCH stage rises further than 51.5 ft, we will reevaluate. As changes in discharge become necessary, continue to follow the Table 1 guidelines in the SR. Switch to Table 2 rampup/rampdown guidelines on Feb 1 or when the recession line is intercepted for management of the recession in KCH.	If conditions allow, let stage increase to 51.5 ft to intersect the Feb 1 starting stage for KCH F&W recession line.	Implemented	KB Tech Team

KCOL Hydrographs (through Sunday midnight)

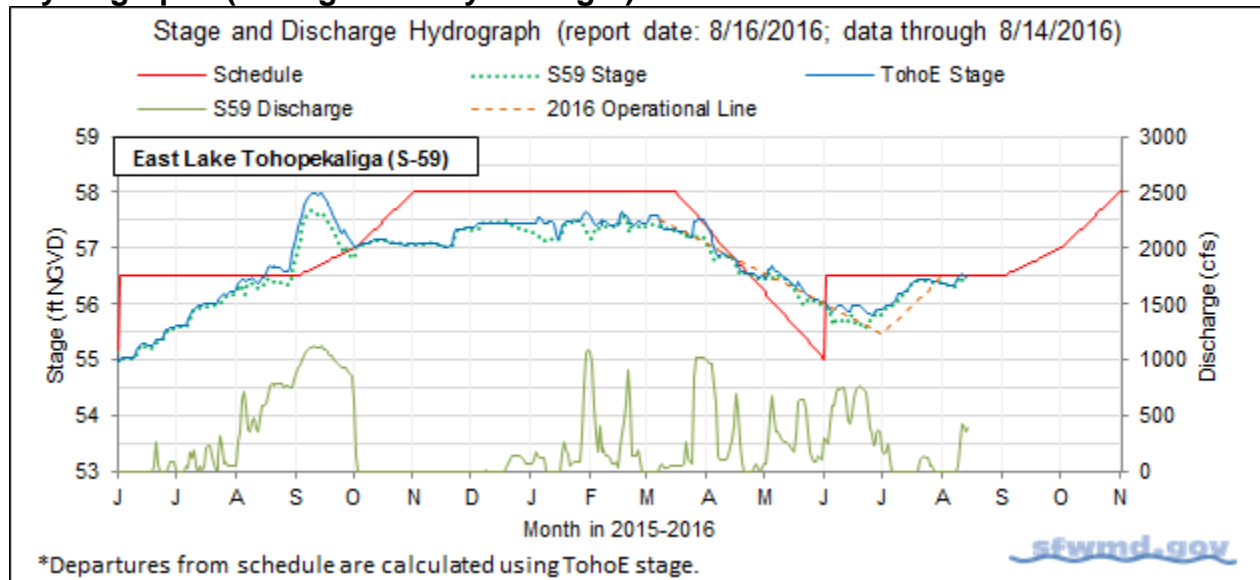


Figure 1.

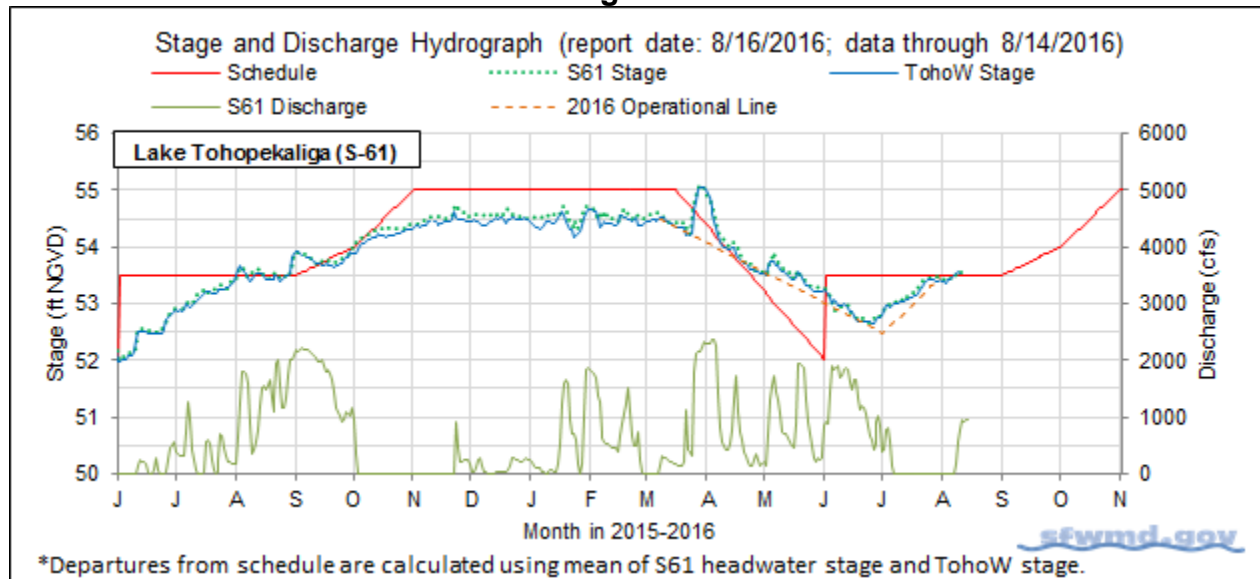


Figure 2.

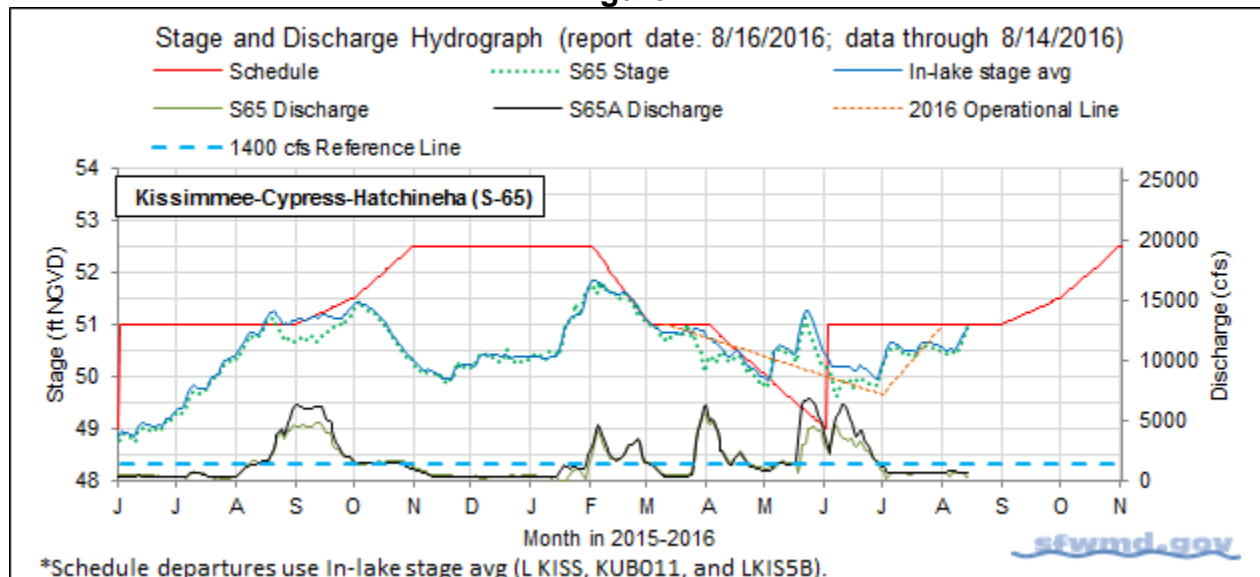


Figure 3.

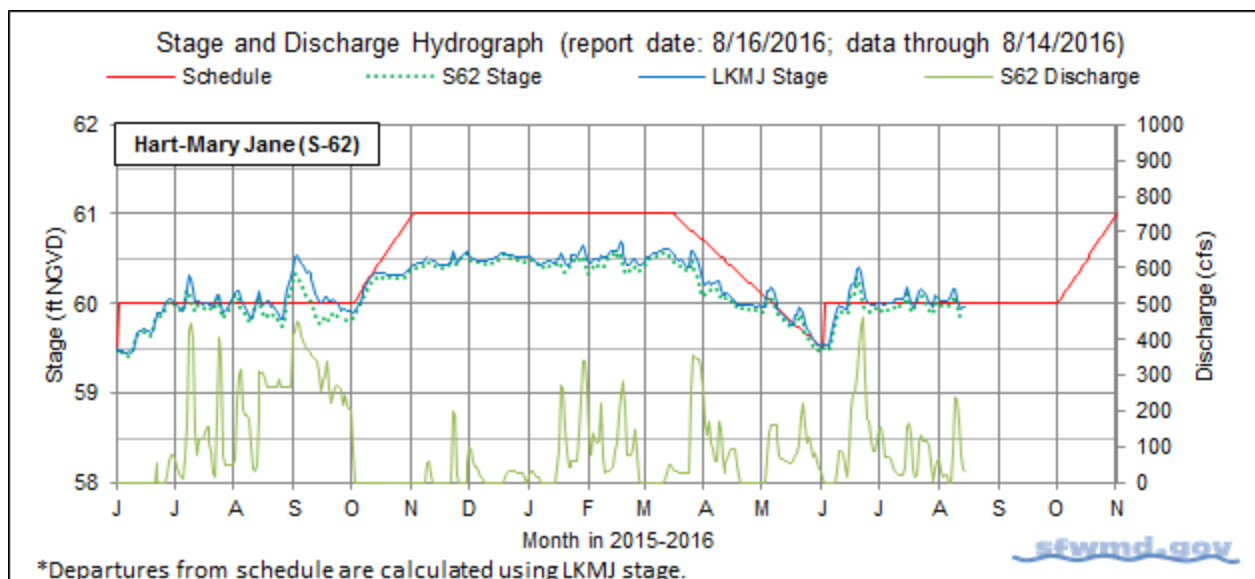


Figure 4.

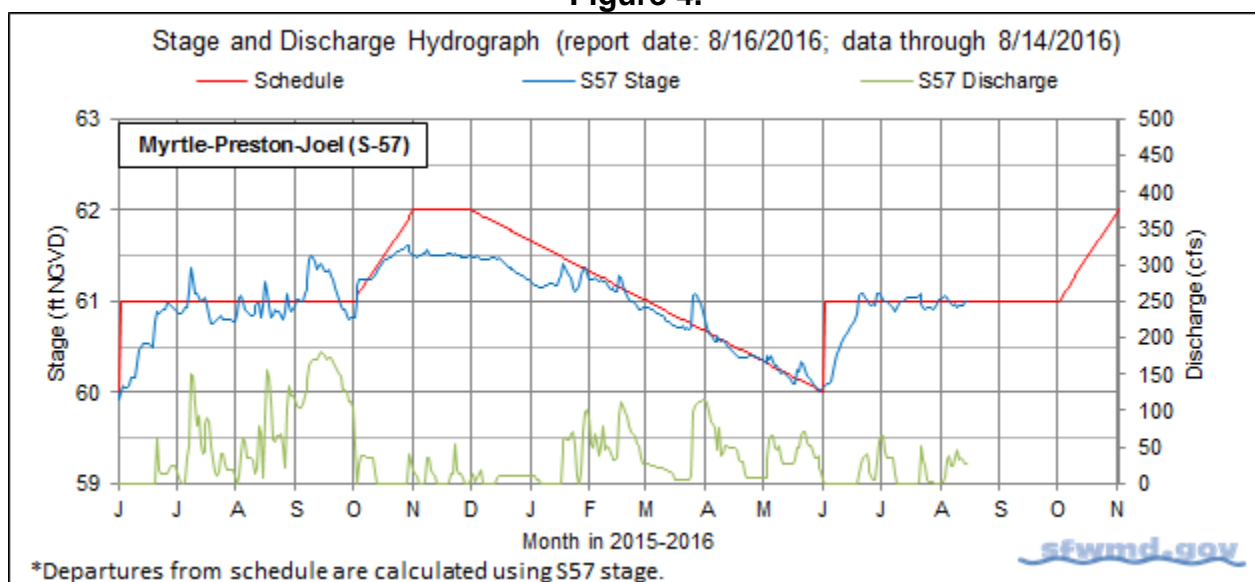


Figure 5.

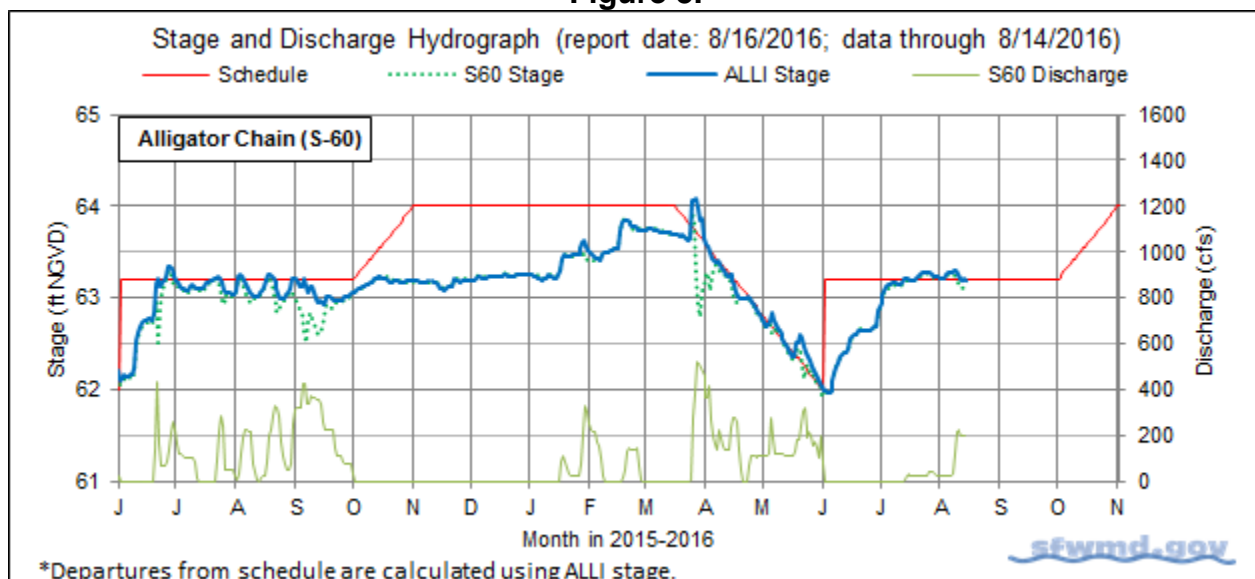


Figure 6.

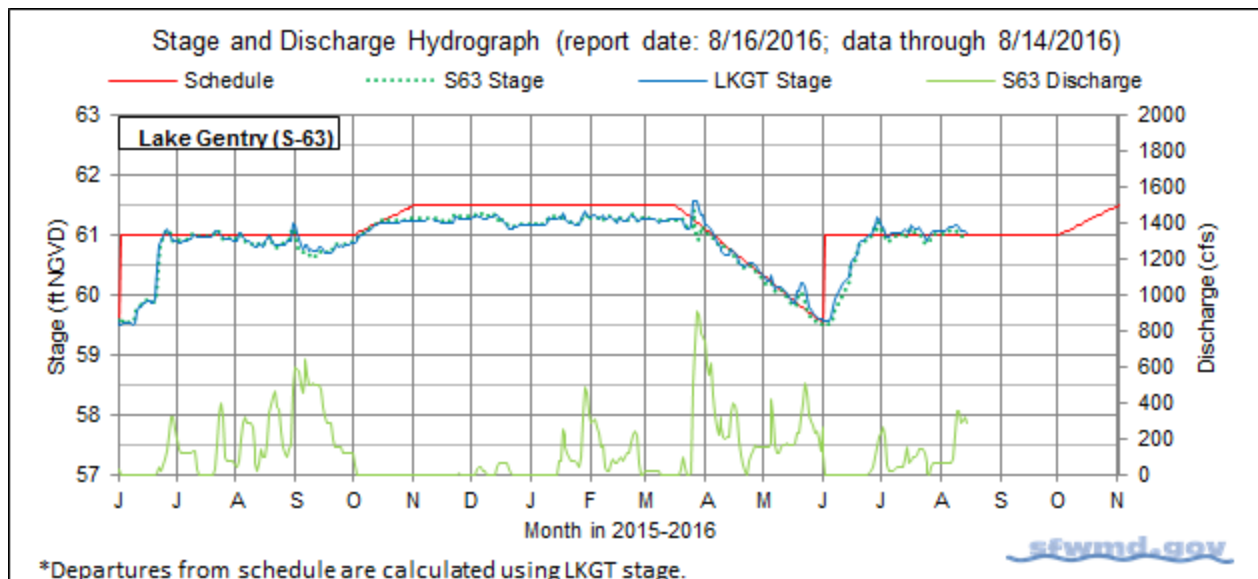


Figure 7.

SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Limits on Rate of Discharge Change at S65/S65A During Wet Season 2016

Q (cfs)	Maximum rate of increase (cfs/day)	Maximum rate of decrease (cfs/day)
650-1450	150	-150
1450-1700	250	-250
1700-2600	300	-300
2600-3000	400	-400
>3000	1000	-1000

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Figure 8a. Limits on rate of discharge change at S65/S65A for the 2016 Wet Season.

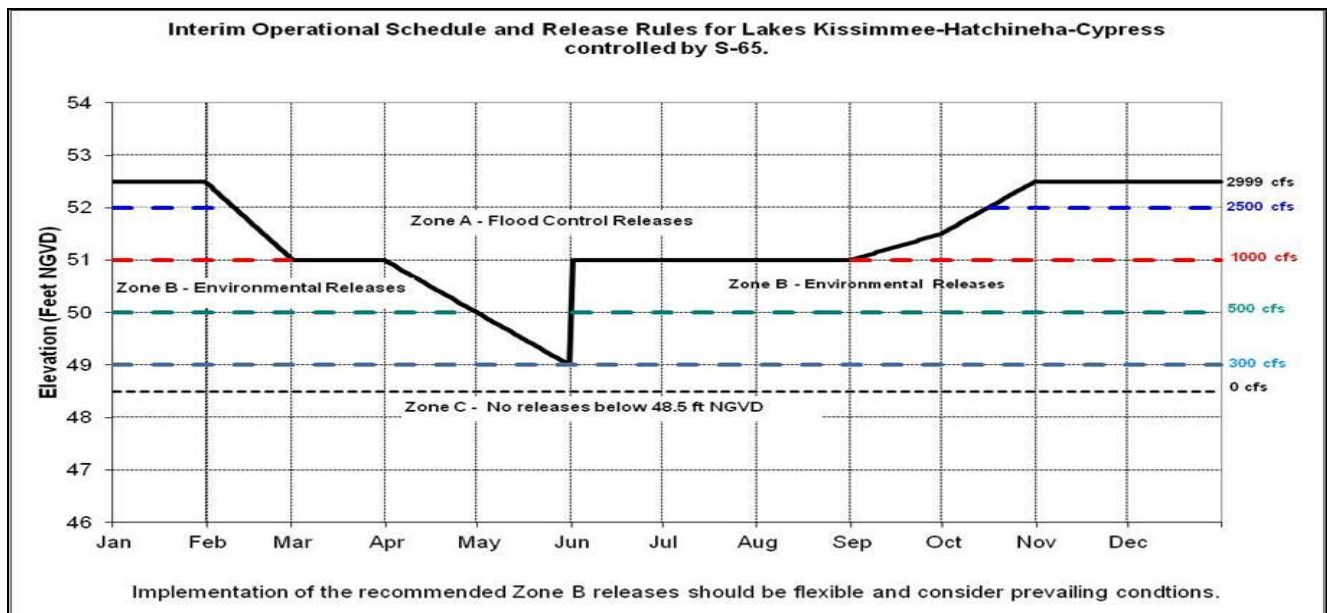


Figure 8b. Interim operations schedule for S65. The discharge schedule shown to the right has not been used in recent years or in Wet Season 2015.

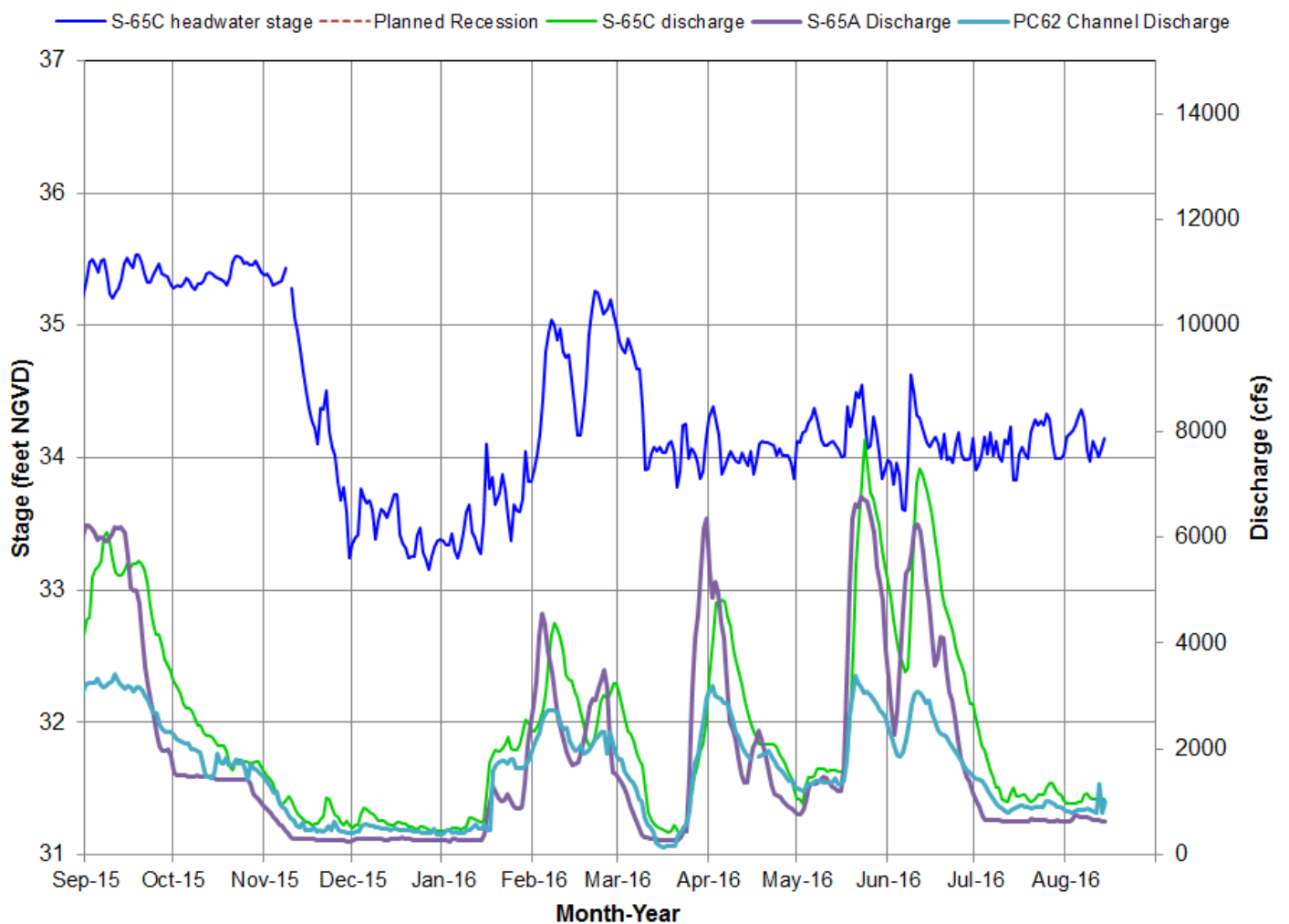


Figure 9. S65C headwater stage in relation to discharge at S65C, S65A, and PC62.

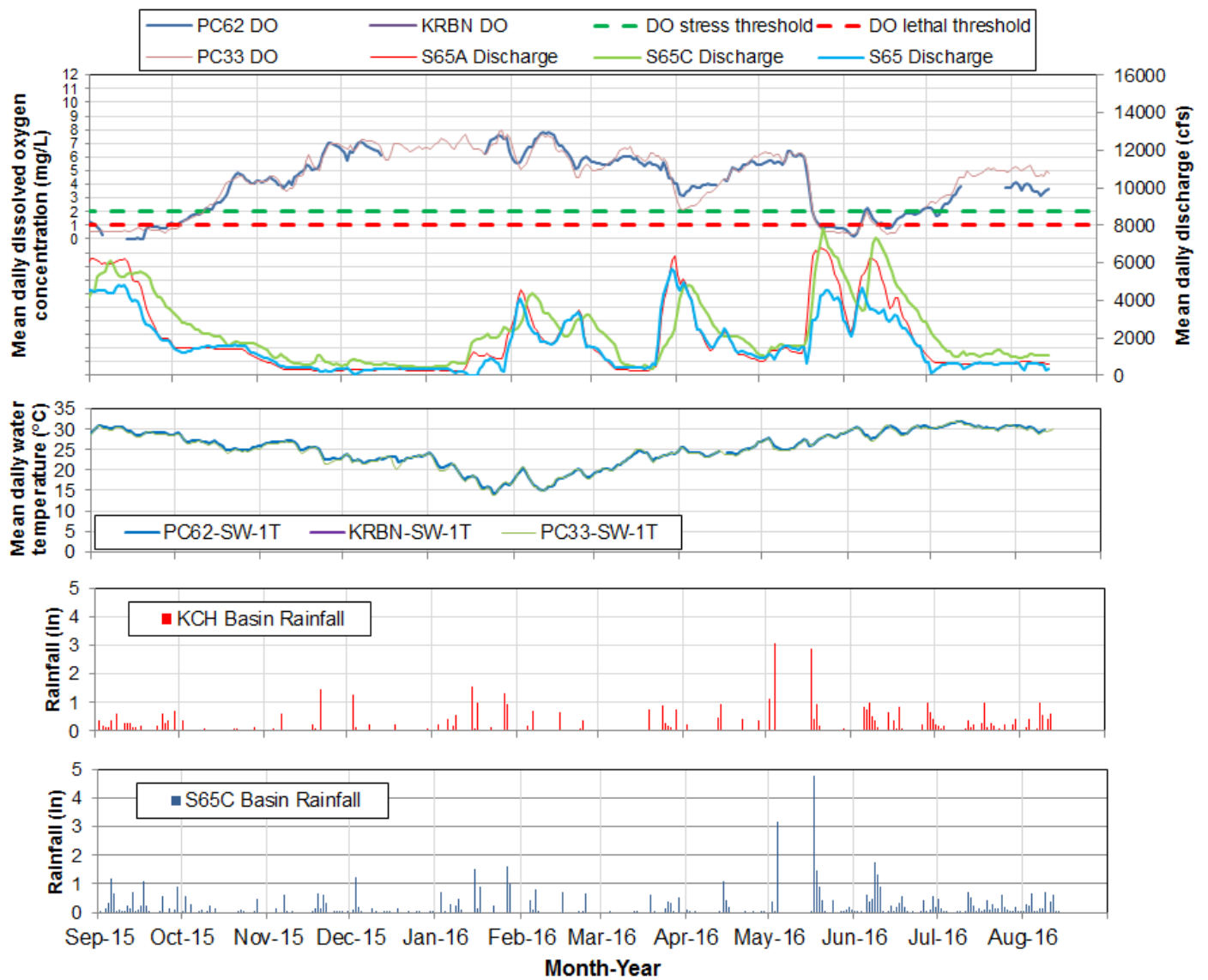


Figure 10. Mean daily Dissolved Oxygen, discharge, temperature and rainfall in the Phase I river channel.

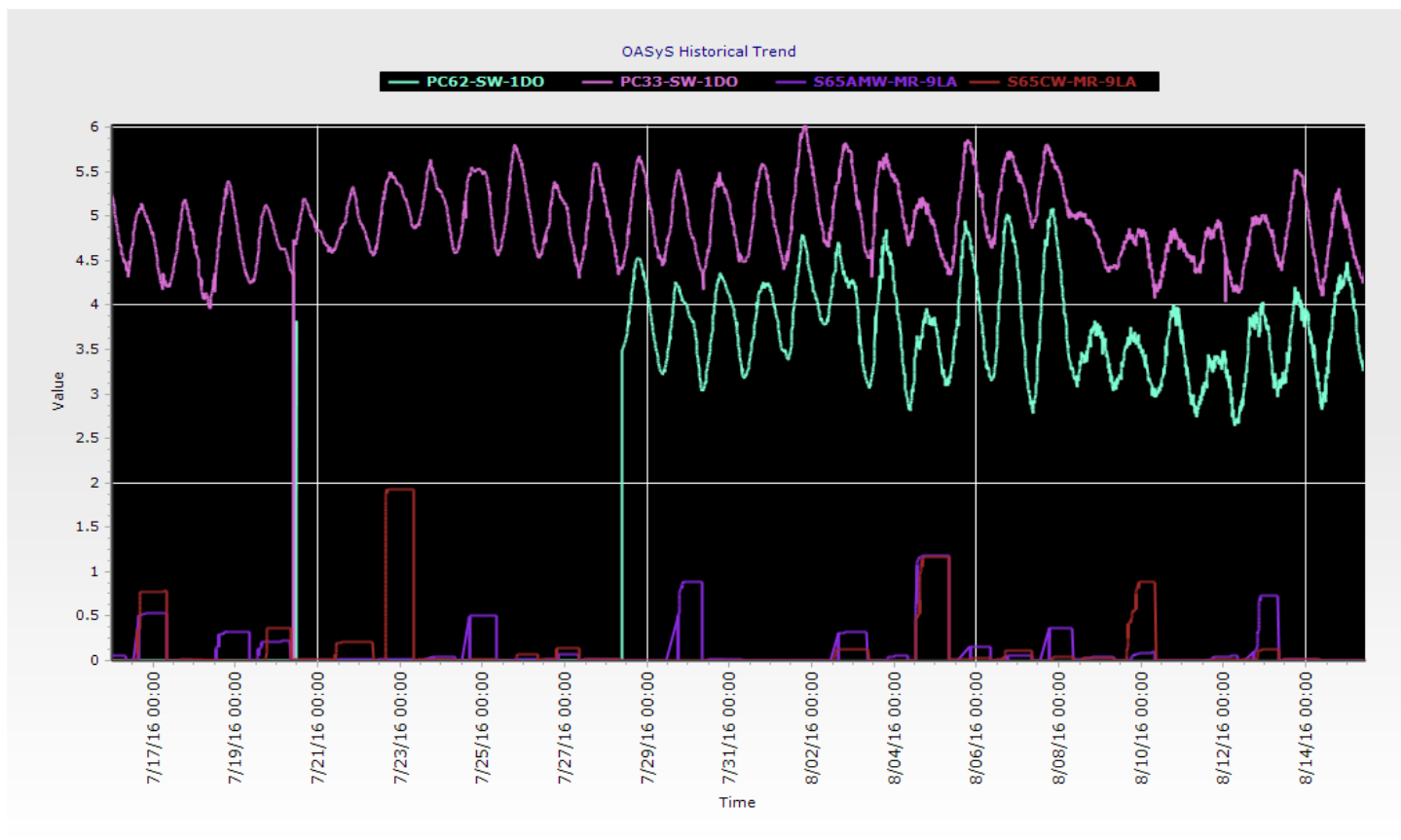


Figure 11. Phase I river channel dissolved oxygen (measured at 15 minute intervals) and rainfall at S65A and S65C.

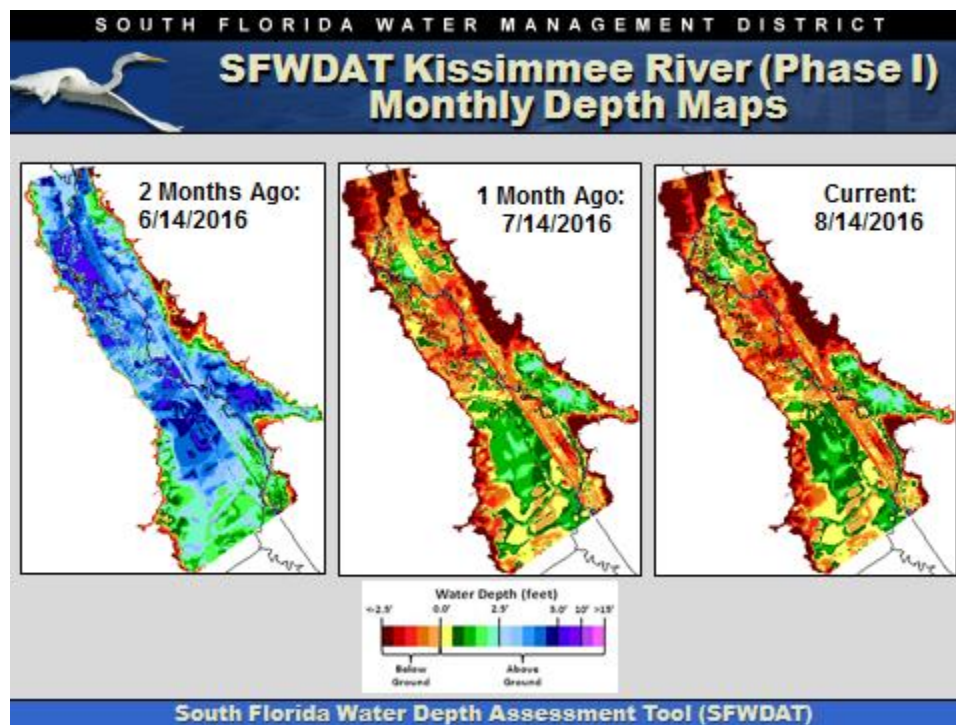
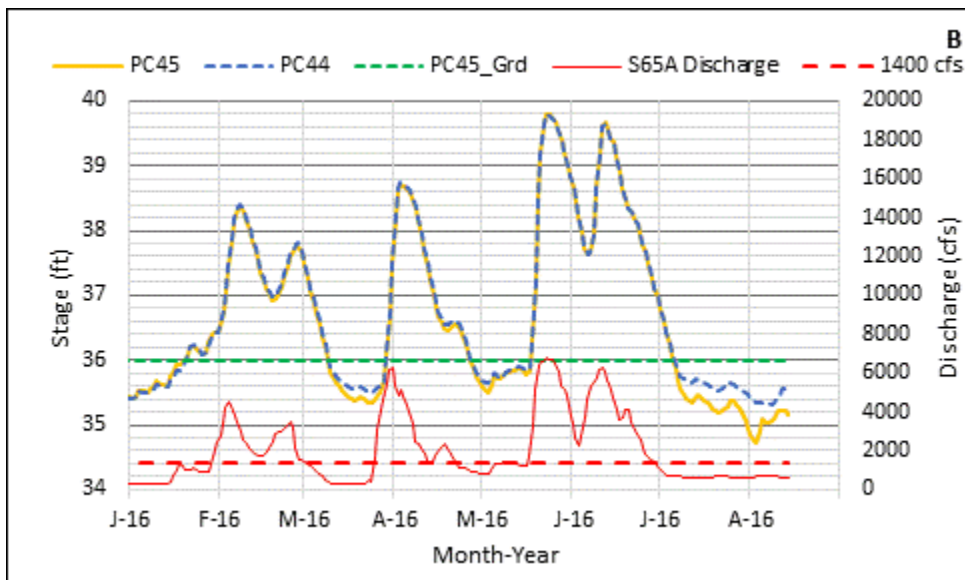
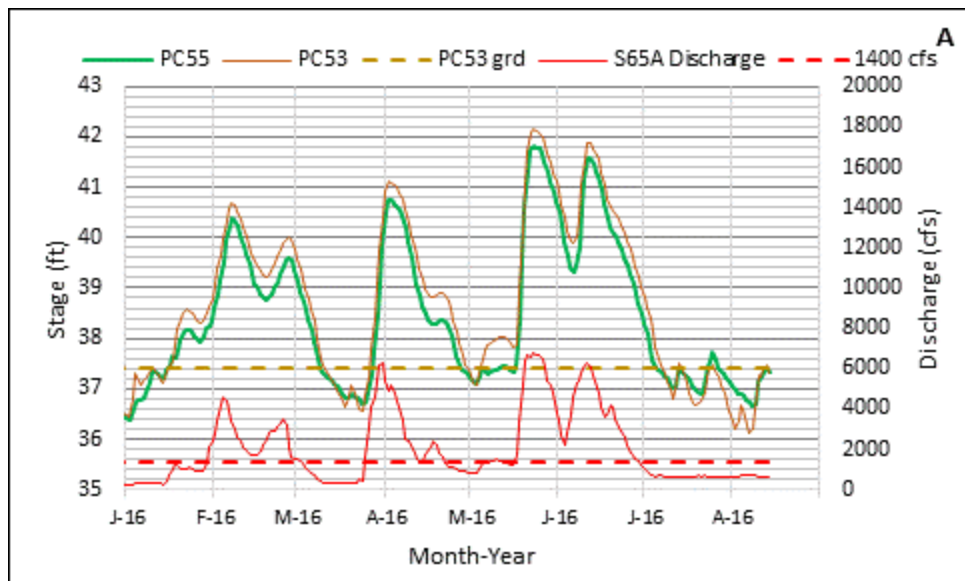


Figure 12. Phase I area floodplain water depths for this week, one month ago, and two months ago. Note that the WDAT color-coding has been modified to accommodate greater water depths; these maps are not directly comparable to Kissimmee Basin WDAT maps published prior to Jan. 16, 2012.



Insert. Stage and ground elevations at selected northern Kissimmee River floodplain sites on (A) the PC5's transect and (B) the PC4's transect, with S65A discharge.

Kissimmee River Hydrographs

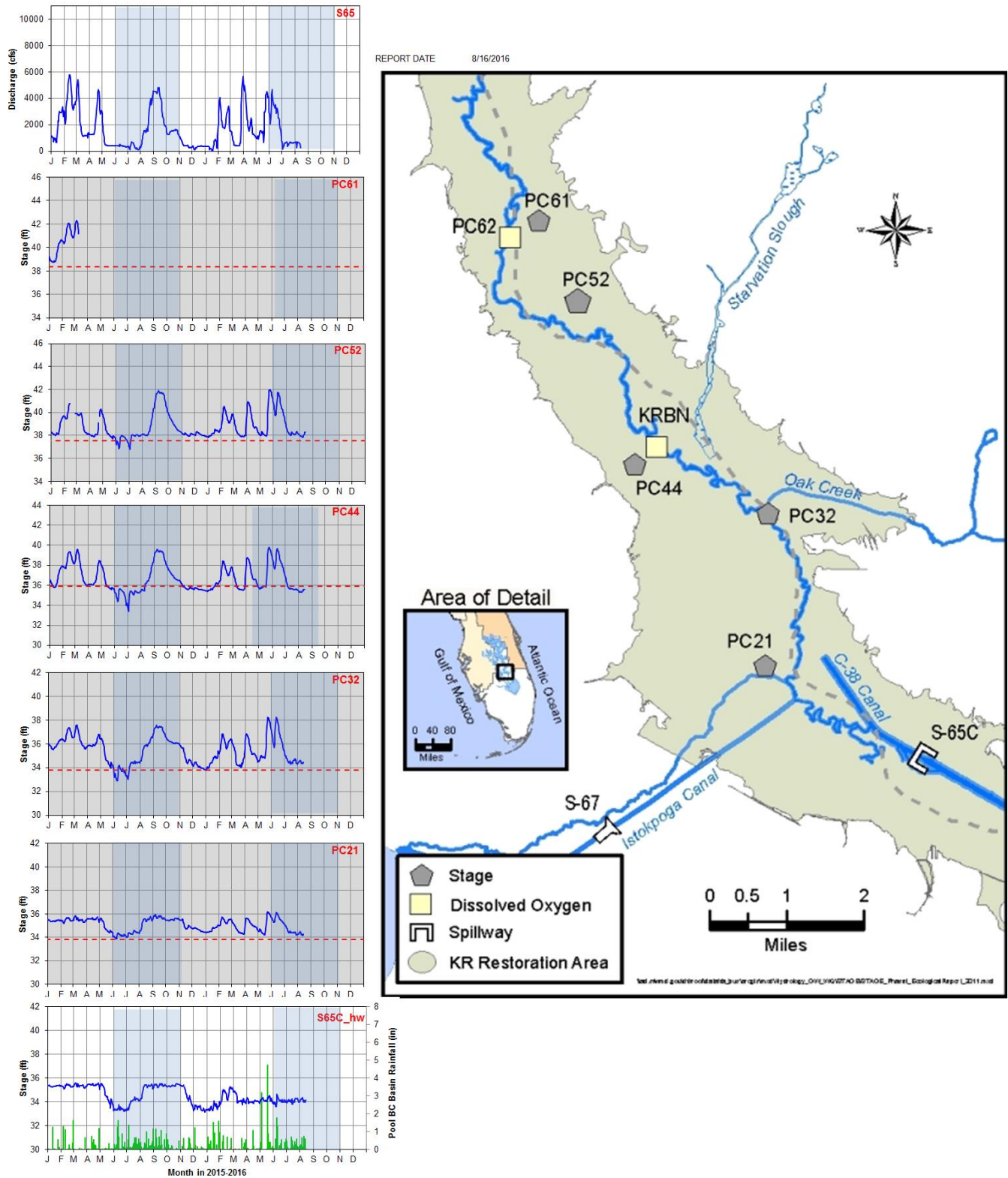


Figure 13. Discharge at S65, stages at five monitoring stations in the Phase I area of the Kissimmee River floodplain, and headwater stage at S65-C since January 1, 2015. The most recent data (~2 weeks) are provisional real-time data from SFWMD DualTrend; previous data are from SFWMD DB-HYDRO (validated). Dashed lines are ground elevations.



Figure 14. The Kissimmee Basin

LAKE OKEECHOBEE

According the United States Army Corps of Engineers (USACE) web site, Lake Okeechobee stage is at 14.77 feet NGVD for the period ending at midnight on August 15, 2016. This value is based on the use of four interior Lake stations (L001, L005, L006, and LZ40) and four perimeter stations (S352, S308, S4 and S133). Lake stage increased by 0.14 feet over the past week and is 0.05 feet higher than it was a month ago and 2.35 feet higher than it was a year ago (Figure 1). The Lake is in the Low Flow Sub-band (Figure 2). According to RAINДАР, 0.85 inches of rain fell directly over the Lake during the past seven days. The surrounding watershed experienced higher rainfall amounts to the north, east and west, but lower amounts to the south (Figure 3).

Instantaneous inflow and outflow values for Lake Okeechobee are not currently available.

Water supply demands decreased in the EAA, compared to the previous week, with no flow exiting through S351, S352, and S354. Corrected evapotranspiration value based on the L006 weather platform solar radiation data for this past week was 1,800 cfs, down from last week's value of 2,373 cfs.

Change in elevation equivalents and average weekly flows for major structures are presented in Figure 4. Weekly average values for S77 and S308 are based on USGS data for the below structure gauges.

Recent MODIS satellite imagery (Figure 5) suggests that cyanobacterial bloom conditions on the Lake have abated somewhat in the past week.

Water Management Recommendations

Lake stage has been decreasing slowly over the past month but increased slightly over the past week resulting in a small increase in stage relative to this date last month. The current Lake stage is about 0.5 feet too high for this time of year, which may result in an increased loss of submerged aquatic vegetation (SAV). There also appears to have been an increase in the occurrence of cyanobacterial blooms relative to recent years. Future short-term recommendations are highly dependent on near-term rainfall patterns and amounts. The goal should be to limit the rate of Lake stage increase to avoid exceeding the top of the preferred stage envelope (15.5 feet NGVD) during the wet season.

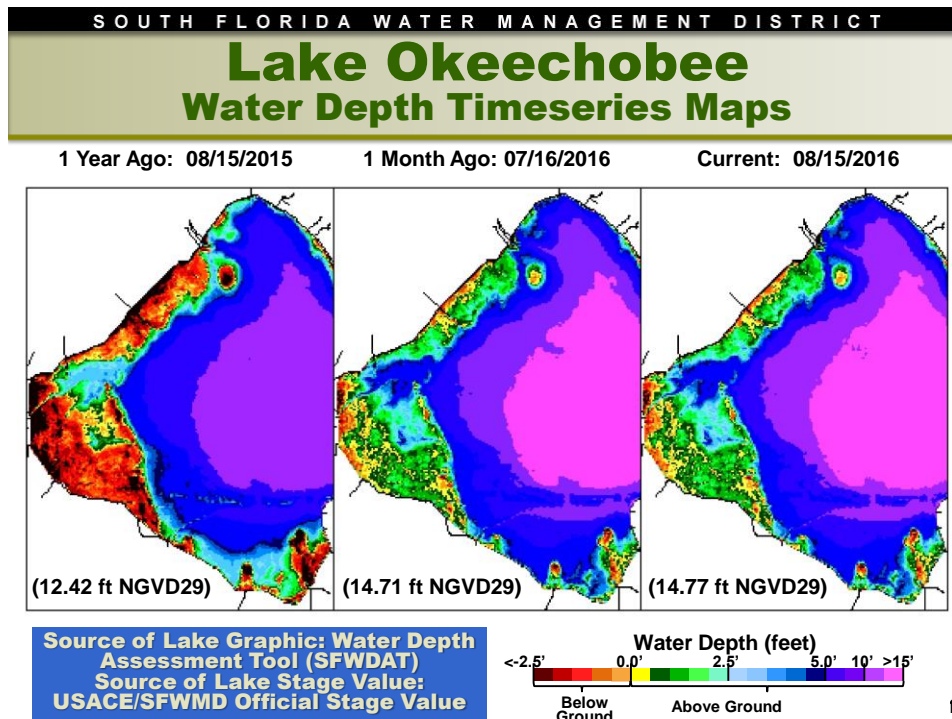


Figure 1

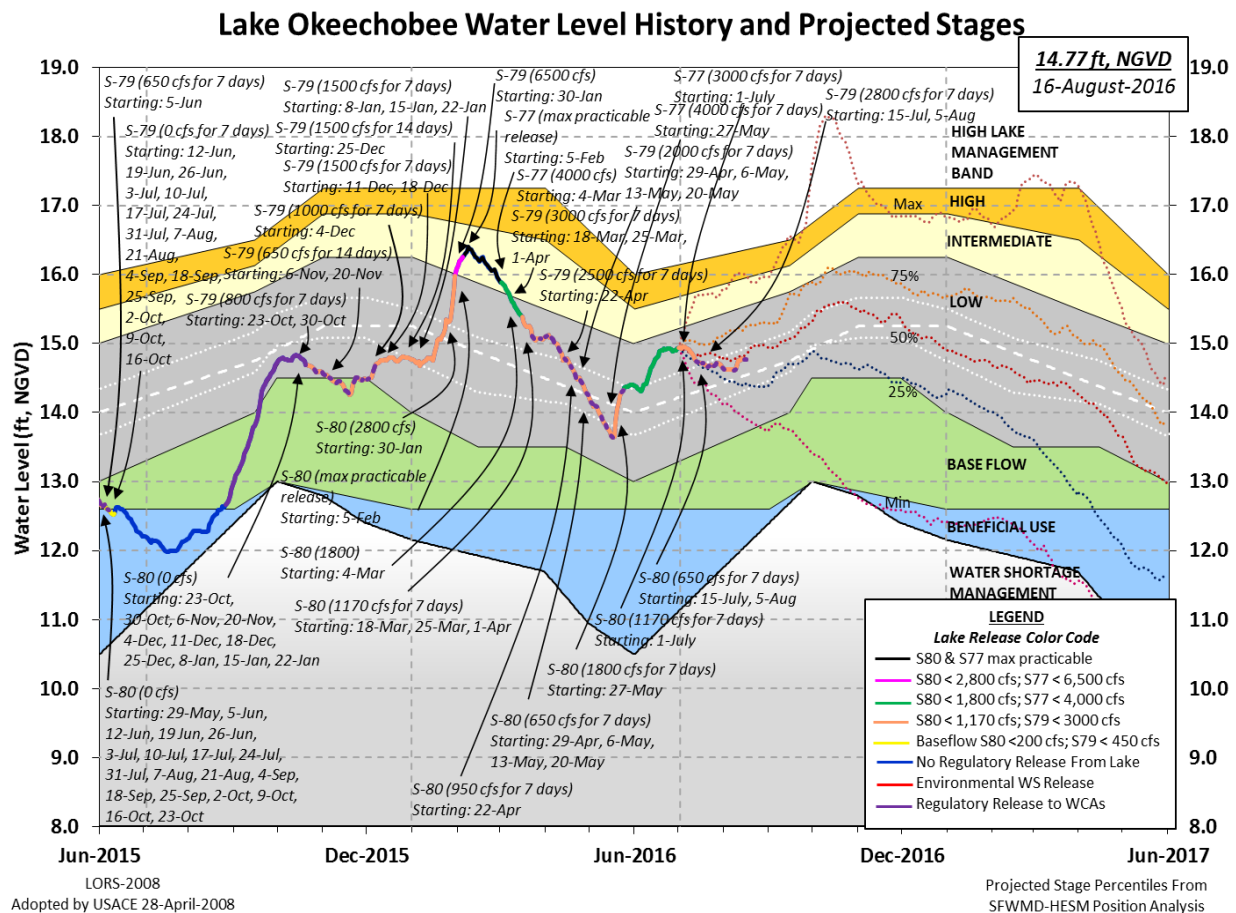
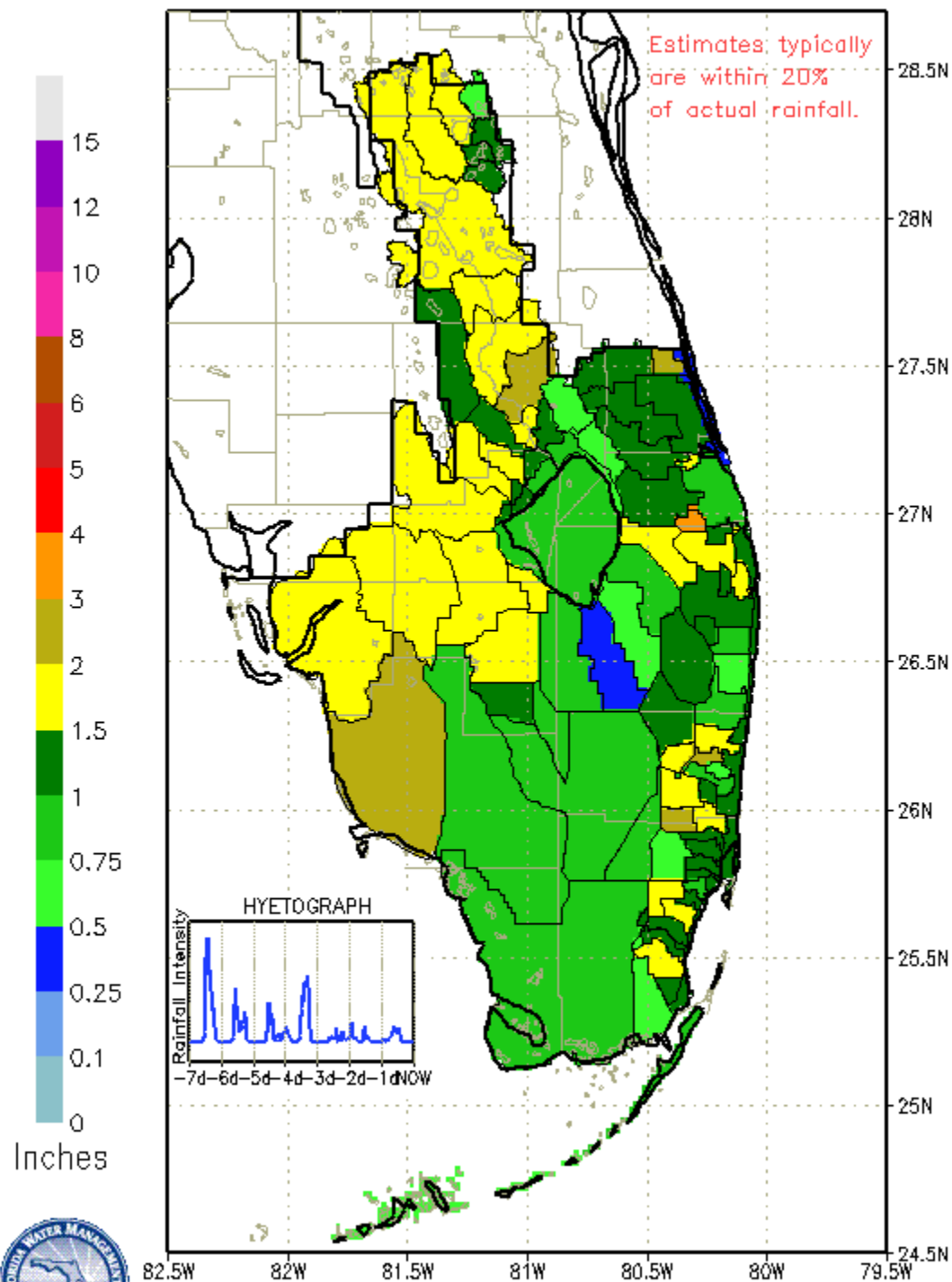


Figure 2

SFWMD PROVISIONAL RAINDAR 7-DAY BASIN RAINFALL ESTIMATES

FROM: 0215 EST, 08/09/2016

THROUGH: 0215 EST, 08/16/2016



DISTRICT-WIDE RAINFALL ESTIMATE: 1.335"

Figure 3

INFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S65E	1118	0.037
S71 & 72	679	0.023
S84 & 84X	977	0.032
Fisheating Creek	574	0.019
Rainfall	N.A.	0.071
OUTFLOWS	Average Daily Flow Past Week cfs	Feet of Change Past Week
S77	508	0.017
S308	427	0.014
S351	0	0.000
S352	0	0.000
S354	0	0.000
L8	128	0.004
ET	1800	0.060

Figure 4



Unvalidated and Experimental Data

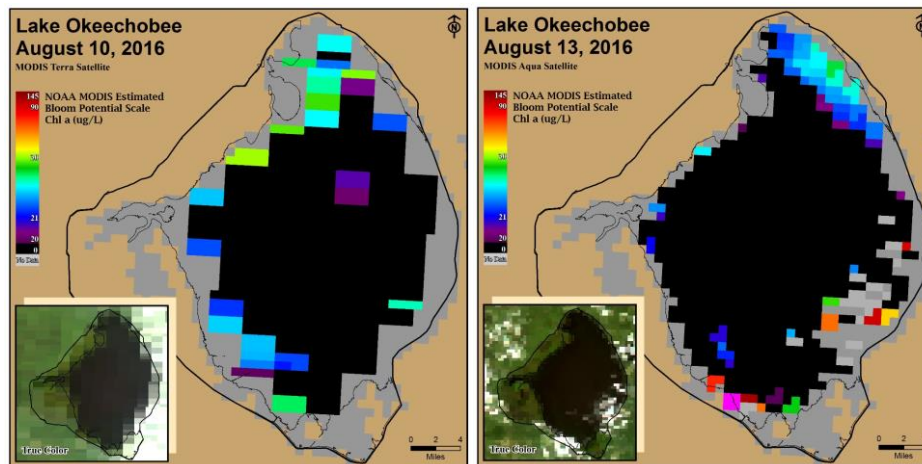


Figure 5

Lake Istokpoga

The Lake Istokpoga regulation schedule began its ascension towards winter pool stage of 39.50 feet NGVD on August 2, 2016. Lake Stage is 38.35 feet NGVD and is currently 0.01 feet below its regulation stage of 38.36 feet NGVD (Figure 6). Average flows into the Lake from Arbuckle and Josephine creeks were 632 cfs and 105 cfs respectively. Average discharge from S68 and S68X this past week was 790

cfs, a small decrease from the preceding week. According to RAINDAR, 1.28 inches of rain fell in the Lake Istokpoga watershed during the past seven days.

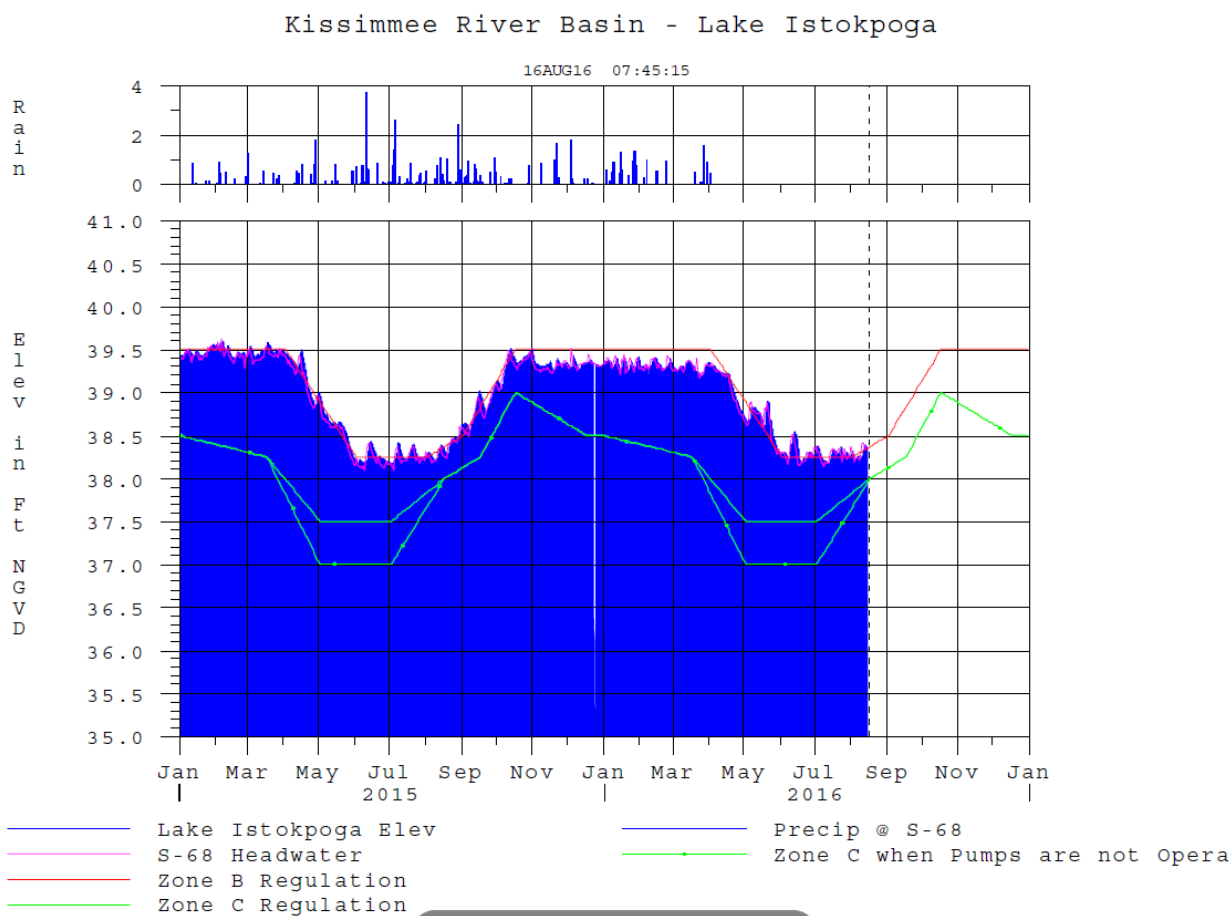


Figure 6

ESTUARIES

St. Lucie Estuary

Over the past week, provisional flows averaged about 826 cfs at S80, 427 cfs downstream of S308, 143 cfs at S49 on C24, 505 cfs at S97 on C23, and 135 cfs from Ten Mile Creek at the Gordy Road Structure. Average inflow from tidal basin tributaries is estimated to be 988 cfs (Figures 1 and 2). Total inflow averaged about 2,597 cfs last week and 1,575 cfs over last month.

Over the past week, salinity decreased throughout the estuary (Table 1, Figures 3 and 4). The seven-day moving average salinity of the water column at the US1 Bridge is about 5.1. Salinity conditions in the middle estuary are just within the fair range for the adult eastern oyster.

Table 1. Seven-day average salinity at three monitoring stations in the St. Lucie Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for adult eastern oysters (*Crassostrea virginica*) in the middle estuary.

Sampling Site	Surface	Bottom	Envelope
HR1 (N. Fork)	2.3 (5.9)	4.2 (8.5)	NA ¹
US1 Bridge	4.3 (9.5)	6.0 (12.1)	10.0-26.0
A1A Bridge	15.9 (22.8)	19.7 (24.1)	NA

¹Envelope not applicable

Caloosahatchee Estuary

During the past week, provisional flows averaged approximately 508 cfs downstream of S77, 798 cfs at S78, and 3,377 cfs at S79. Average inflow from tidal basin tributaries is estimated to be 1,255 cfs (Figures 5 and 6). Total inflow averaged 4,632 cfs last week and 4,666 cfs over last month.

Over the past week in the estuary, salinity remained about fresh to Cape Coral Bridge and decreased downstream (Table 2, Figures 7 and 8). The seven-day average salinity values are within the good range for adult oysters at Shell Point and at Sanibel and has been in the poor range at Cape Coral for 84 consecutive days (Figure 9). The 30-day moving average surface salinity is 0.2 at Val I-75 and 0.2 at Ft. Myers. Salinity conditions at Val I-75 are in the good range for tape grass.

Table 2. Seven-day average salinity at six monitoring stations in the Caloosahatchee Estuary. Current average is in bold face type, previous average in parentheses. The envelope reflects the preferred salinity range for tape grass (*Vallisneria americana*) at Val I-75 and for adult eastern oysters (*Crassostrea virginica*) elsewhere.

Sampling Site	Surface	Bottom	Envelope
S-79 (Franklin Lock)	0.2 (0.2)	0.2 (0.2)	NA ¹
Val I75	0.2 (0.2*)	0.2* (0.2*)	0.0-5.0 ²
Ft. Myers Yacht Basin	0.2 (0.2)	0.2 (0.2)	NA
Cape Coral	1.3 (2.6)	2.4 (3.8)	10.0-30.0
Shell Point	11.5 (14.0)	16.7 (17.3)	10.0-30.0
Sanibel	EM ³ (25.6)	EM (27.4)	10.0-30.0

¹Envelope not applicable, ²Envelope is based on a 30-day average, ³Equipment Malfunction.

*Val I75 is temporarily offline due to bridge construction,
Salinity values are estimated using models developed for this site.

Monitoring data collected by the River, Estuary and Coastal Observing Network of Sanibel-Captiva Conservation Foundation using continuous sensors are summarized in Table 3 as concentration ranges of Chlorophyll *a* and dissolved oxygen at Beautiful Island, Ft. Myers, and Shell Point in the Caloosahatchee Estuary.

Table 3. Weekly ranges of Chlorophyll *a* (a measure of algal biomass) and dissolved oxygen concentrations at three monitoring stations maintained by the Sanibel-Captiva Conservation Foundation.

	RECON Monitoring Stations		
	Beautiful Island	Ft. Myers	Shell Point
Chlorophyll <i>a</i> (µg/l)	5.3 – 5.9	5.4 – 6.28	2.0 – 7.7
Dissolved Oxygen (mg/l)	3.2 – 5.1	5.35 – 6.27	4.4 – 6.7

The Florida Fish and Wildlife Research Institute reported on August 12, 2016, that *Karenia brevis*, the Florida red tide organism, was not detected in samples collected from Lee County.

Water Management Recommendations

Given the current estuarine conditions, there are no ecological benefits associated with additional releases from Lake Okeechobee.

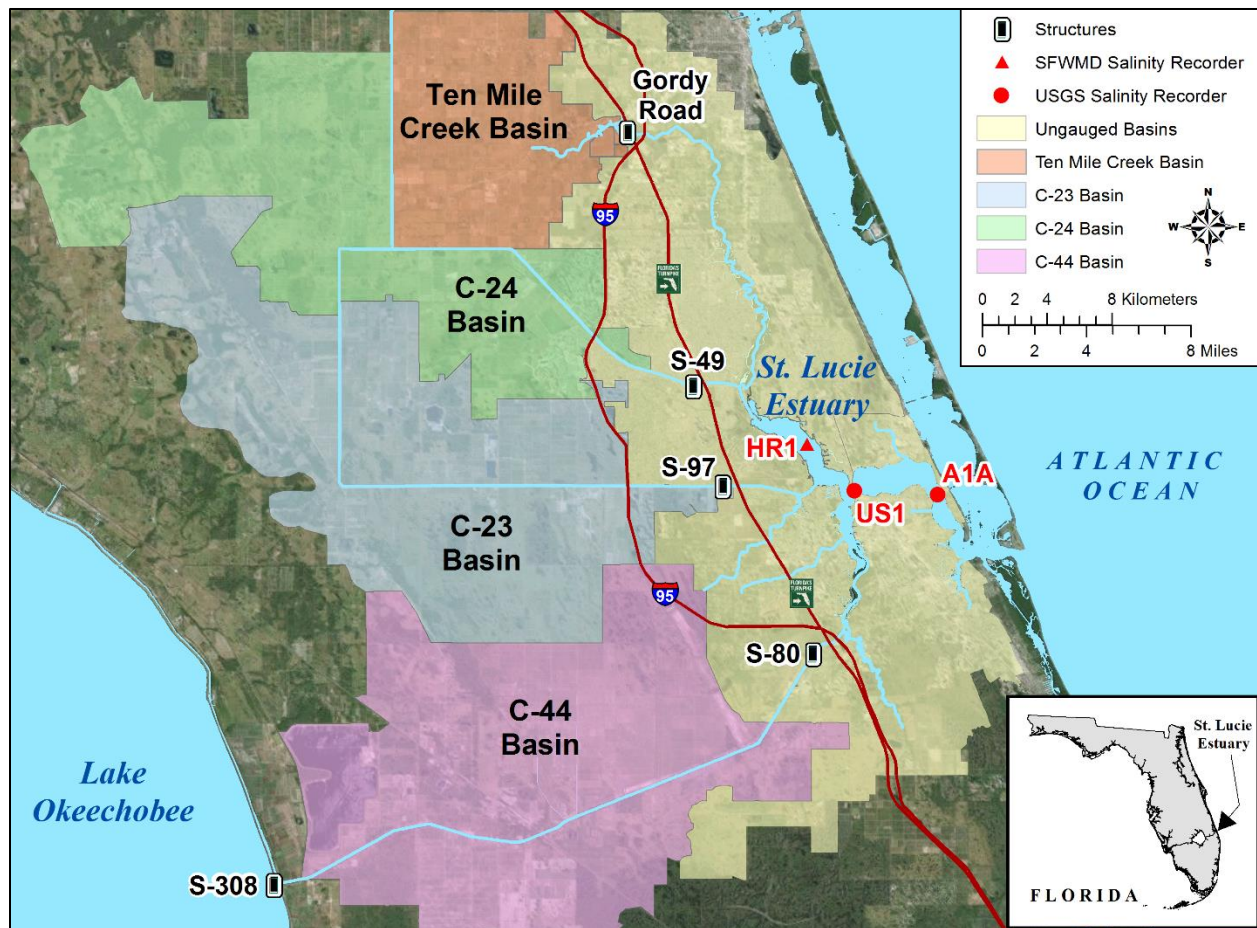


Figure 1. Basins, water control structures, and salinity monitoring for the St. Lucie Estuary.

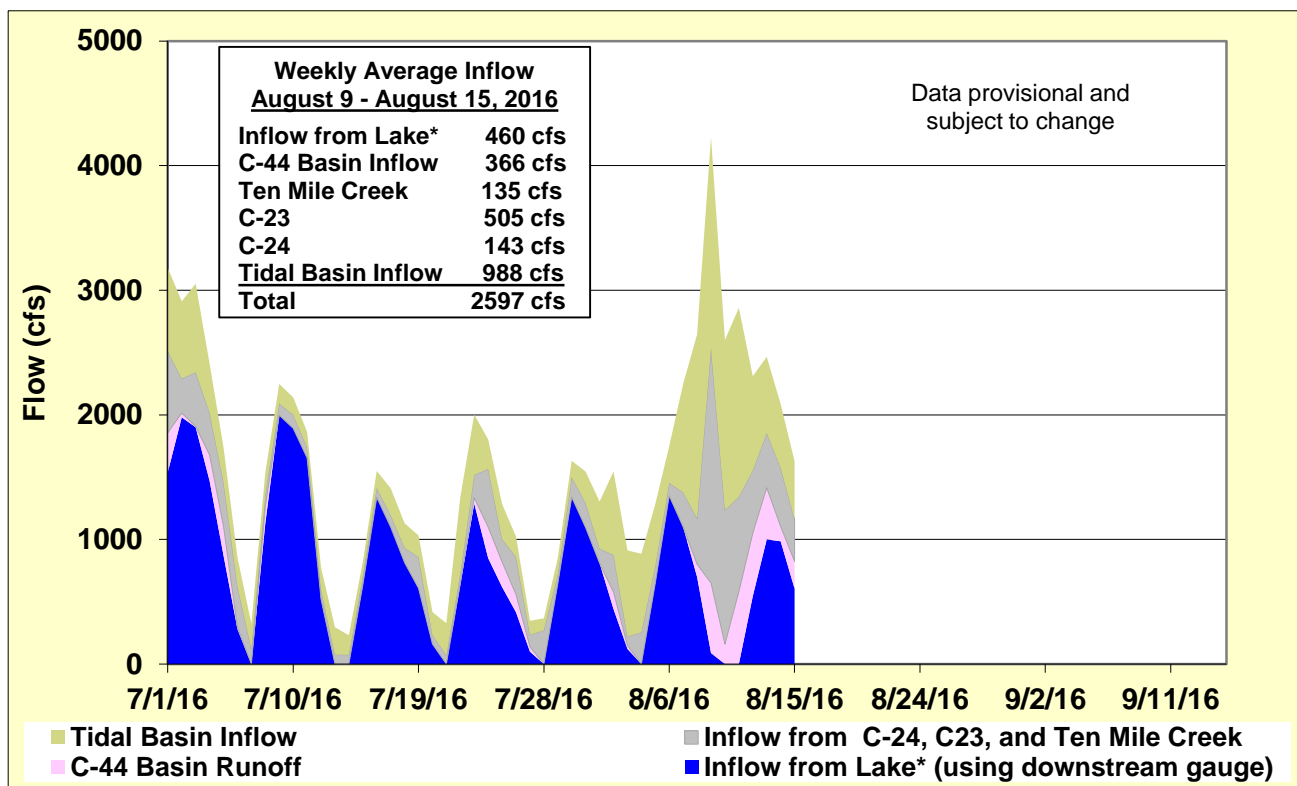


Figure 2. Estimated surface freshwater inflows from Lake Okeechobee and runoff from the C-44, C-23, C-24, Ten Mile Creek, and tidal basins into the St. Lucie Estuary.

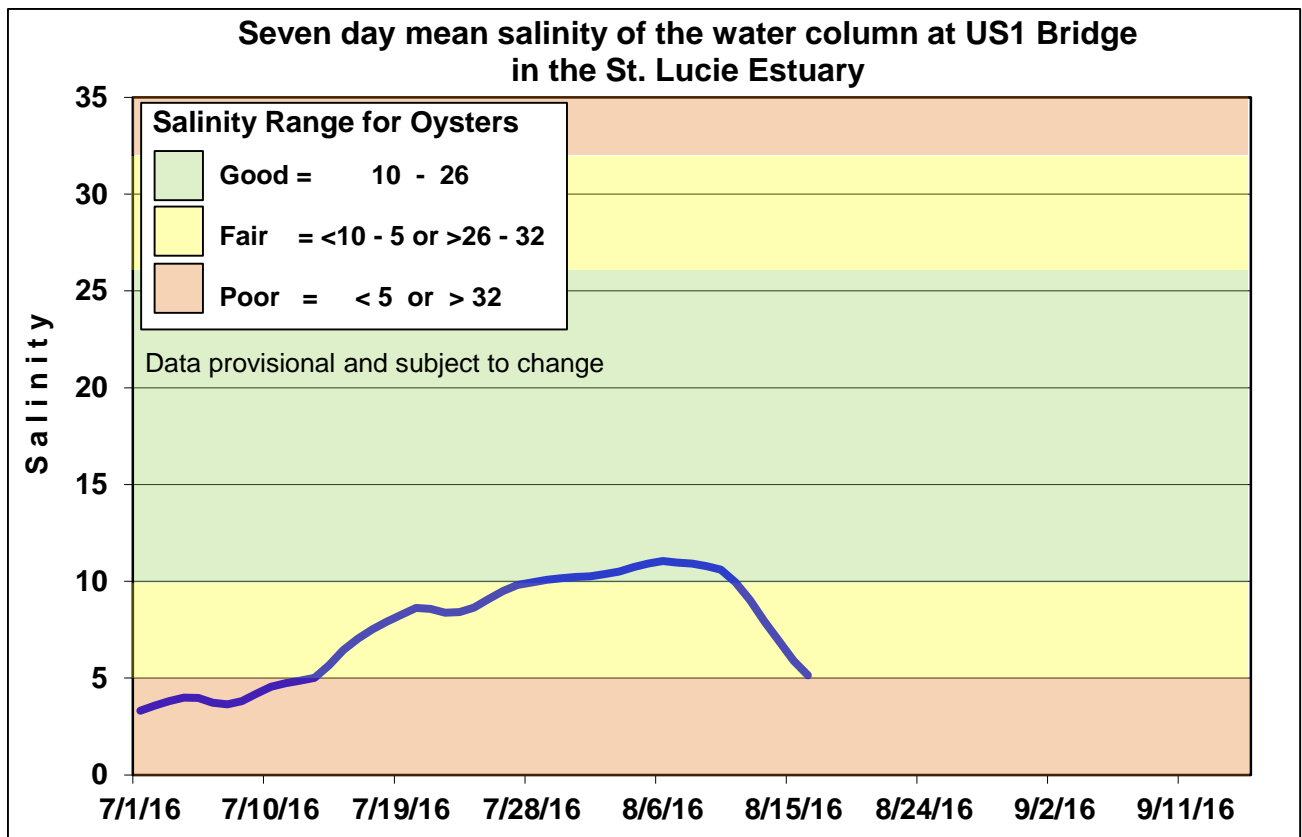


Figure 3. Seven-day mean salinity of the water column at the U.S. Highway 1 Bridge.

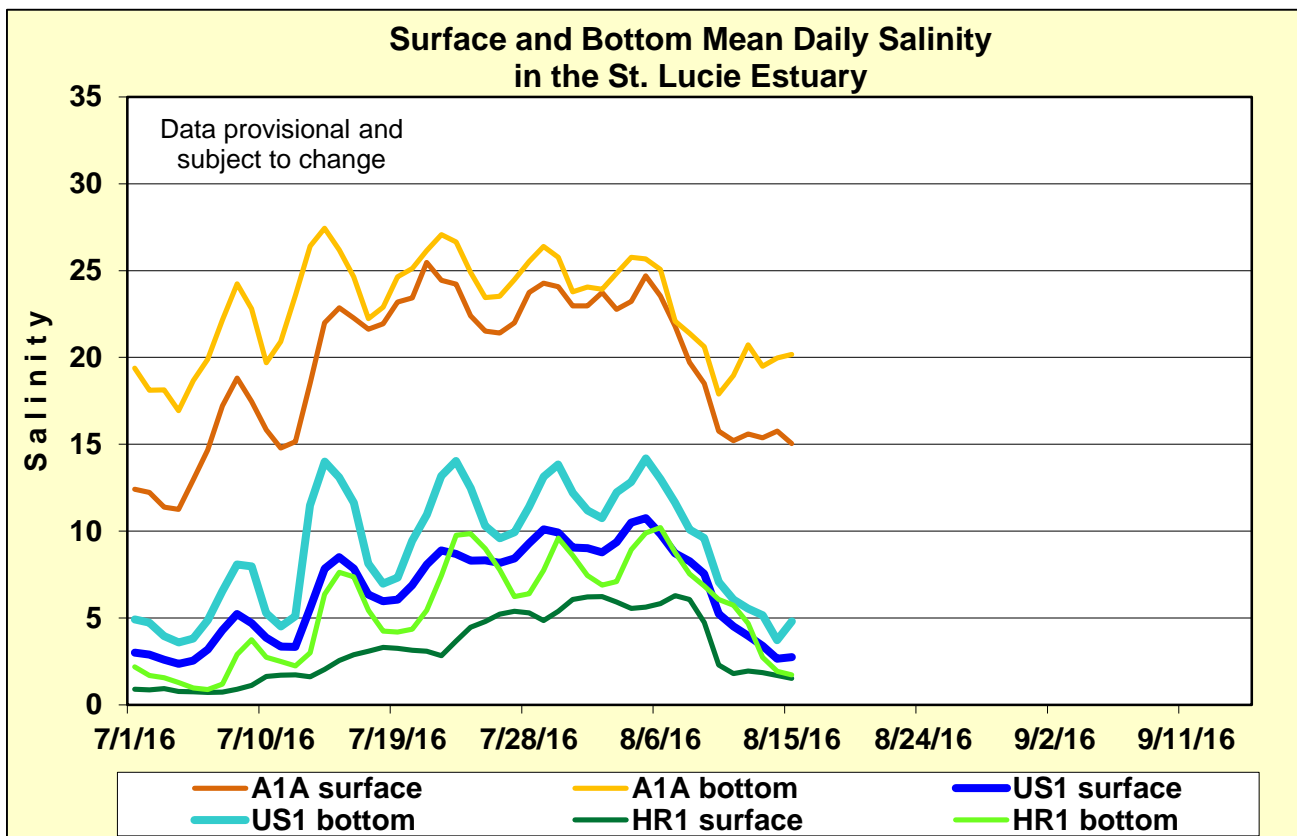


Figure 4. Daily mean salinity at the A1A, US1 and estimated HR1 stations.

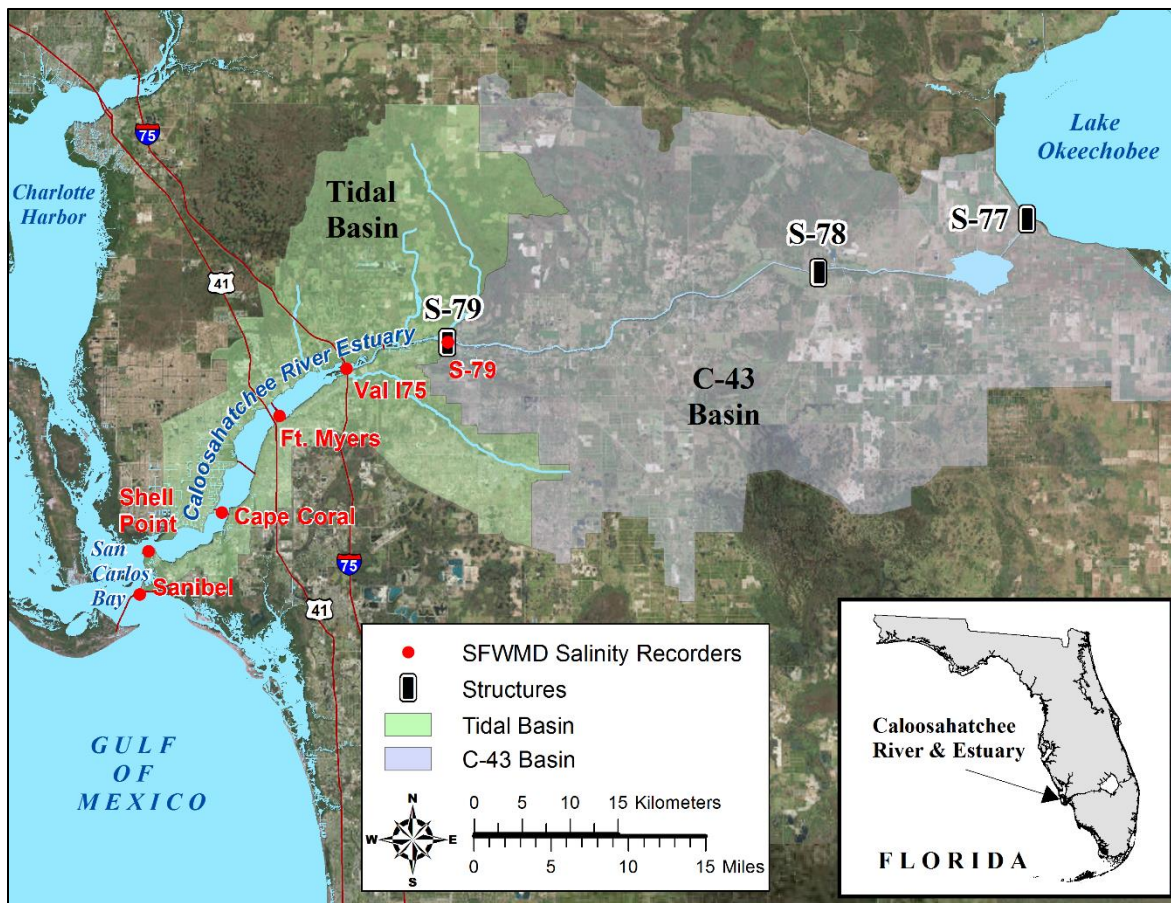


Figure 5. Basins, water control structures, and salinity monitoring for the Caloosahatchee Estuary.

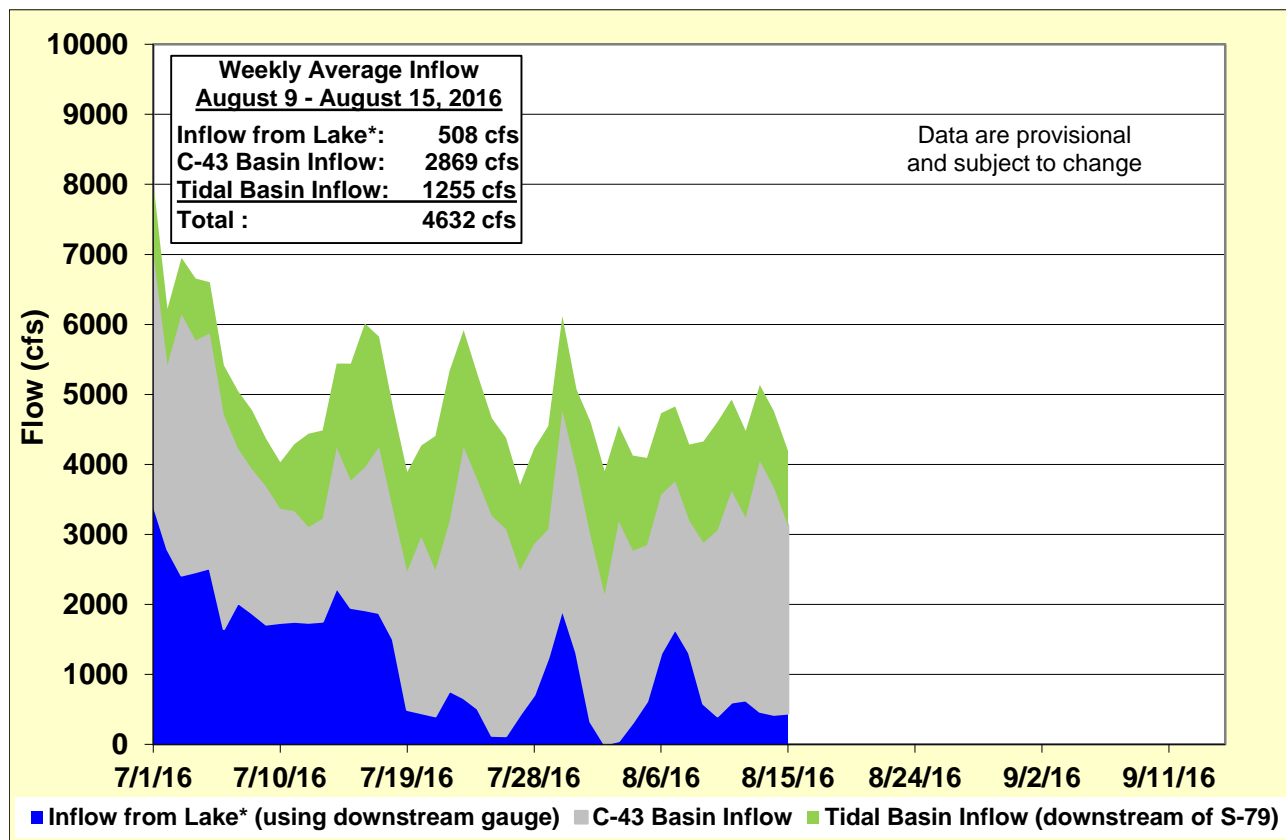


Figure 6. Freshwater inflows from Lake Okeechobee, runoff from the C-43 basin, and tributaries in the tidal basin into the Caloosahatchee River Estuary.

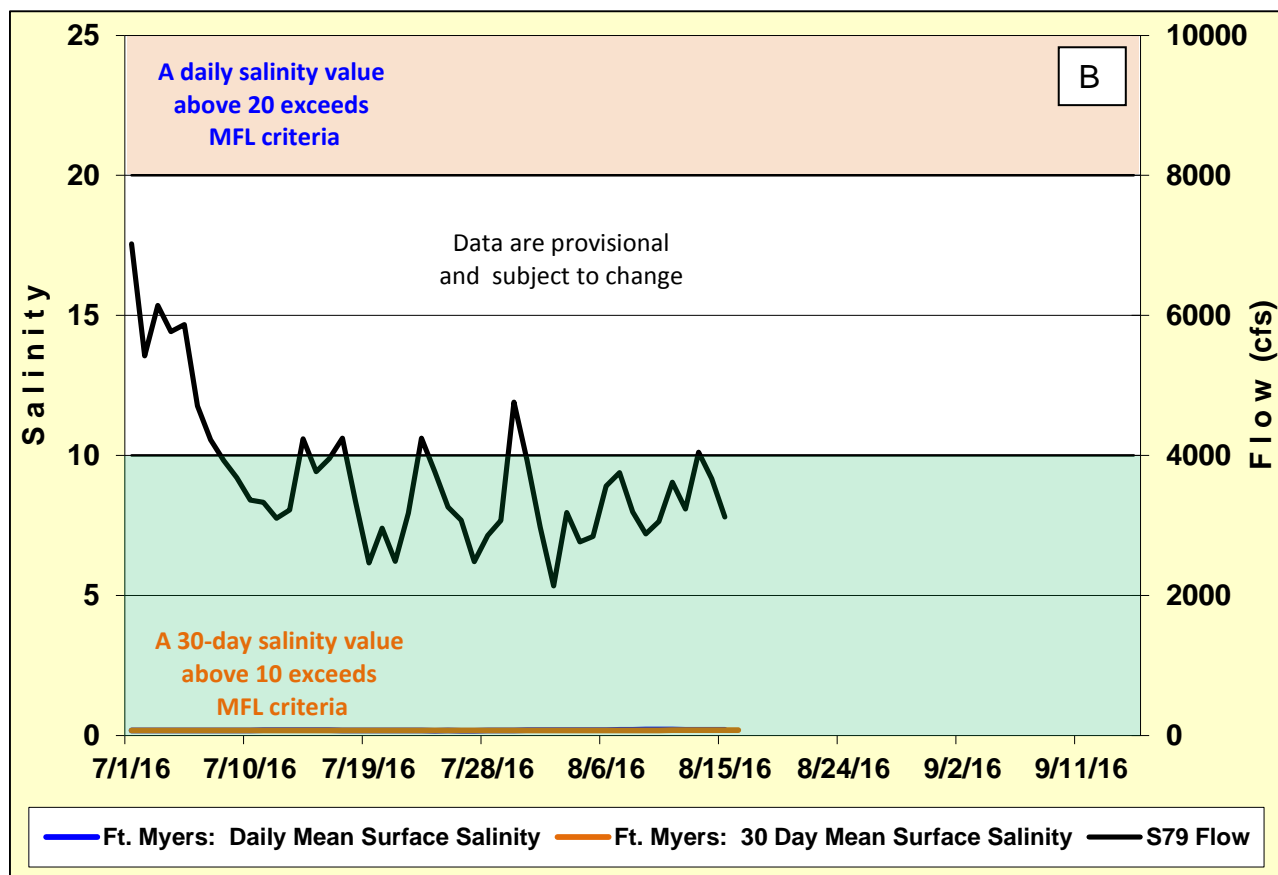
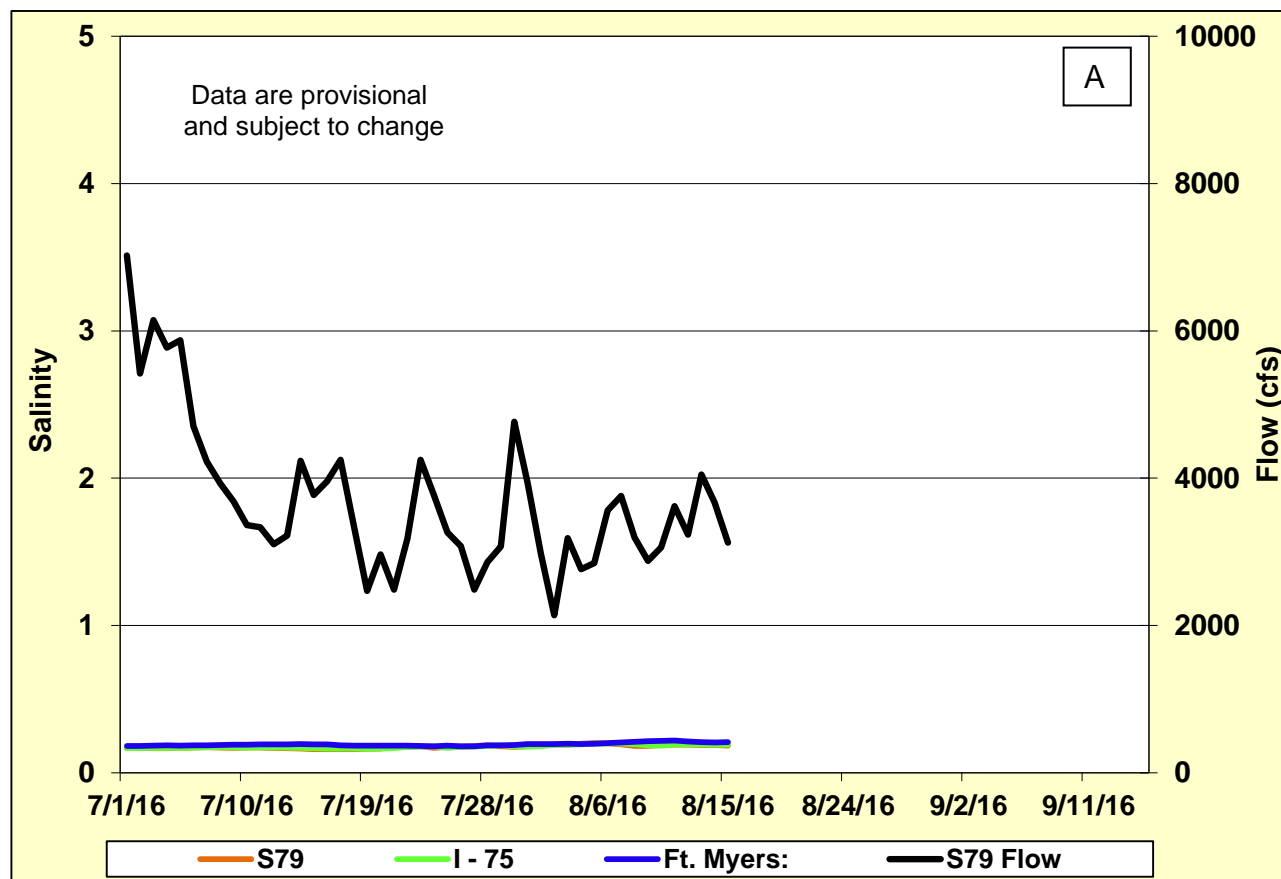


Figure 7. Daily mean flows at S79 and salinity at upper estuary monitoring stations (A) and 30-day moving average salinity at Ft. Myers (B).

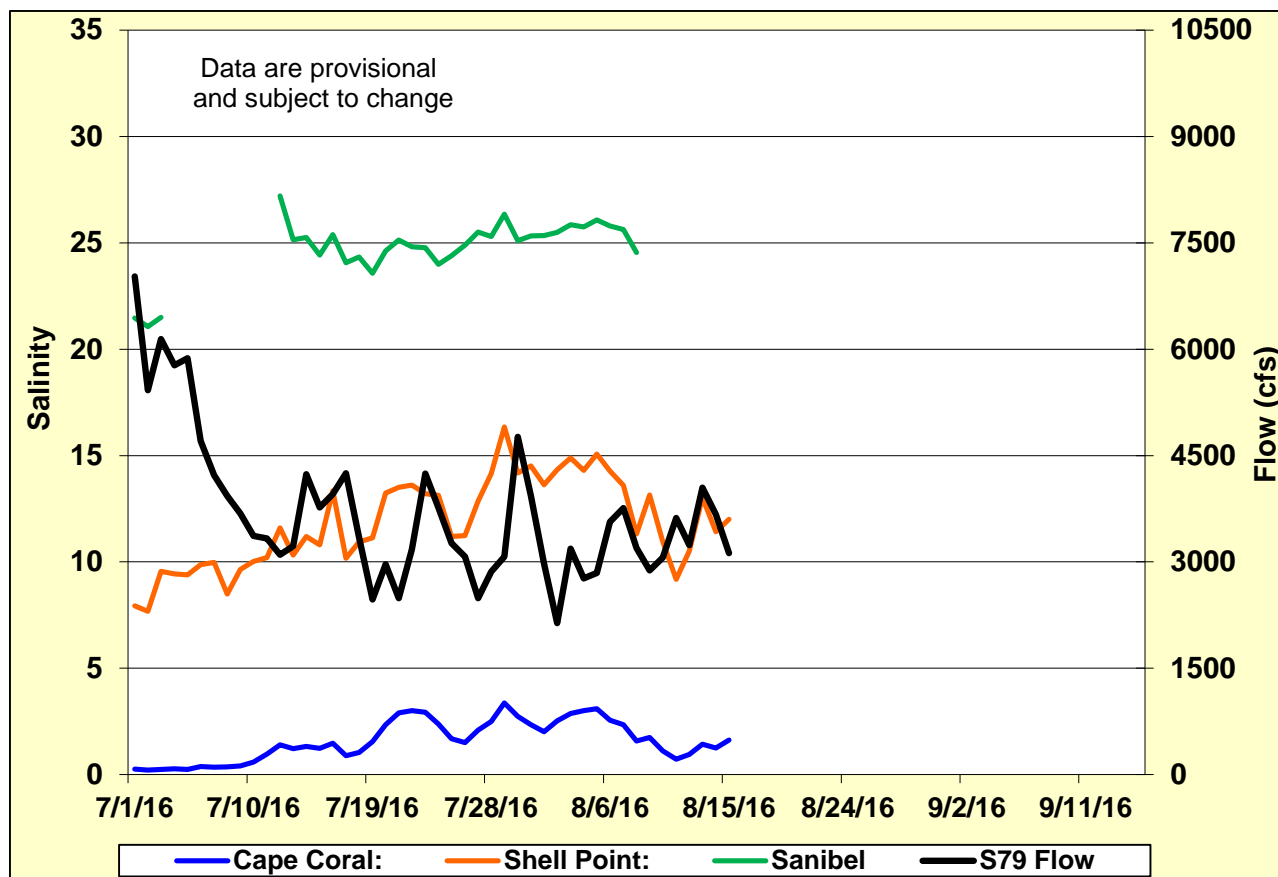


Figure 8. Daily mean flows at S79 and salinity at lower estuary stations.

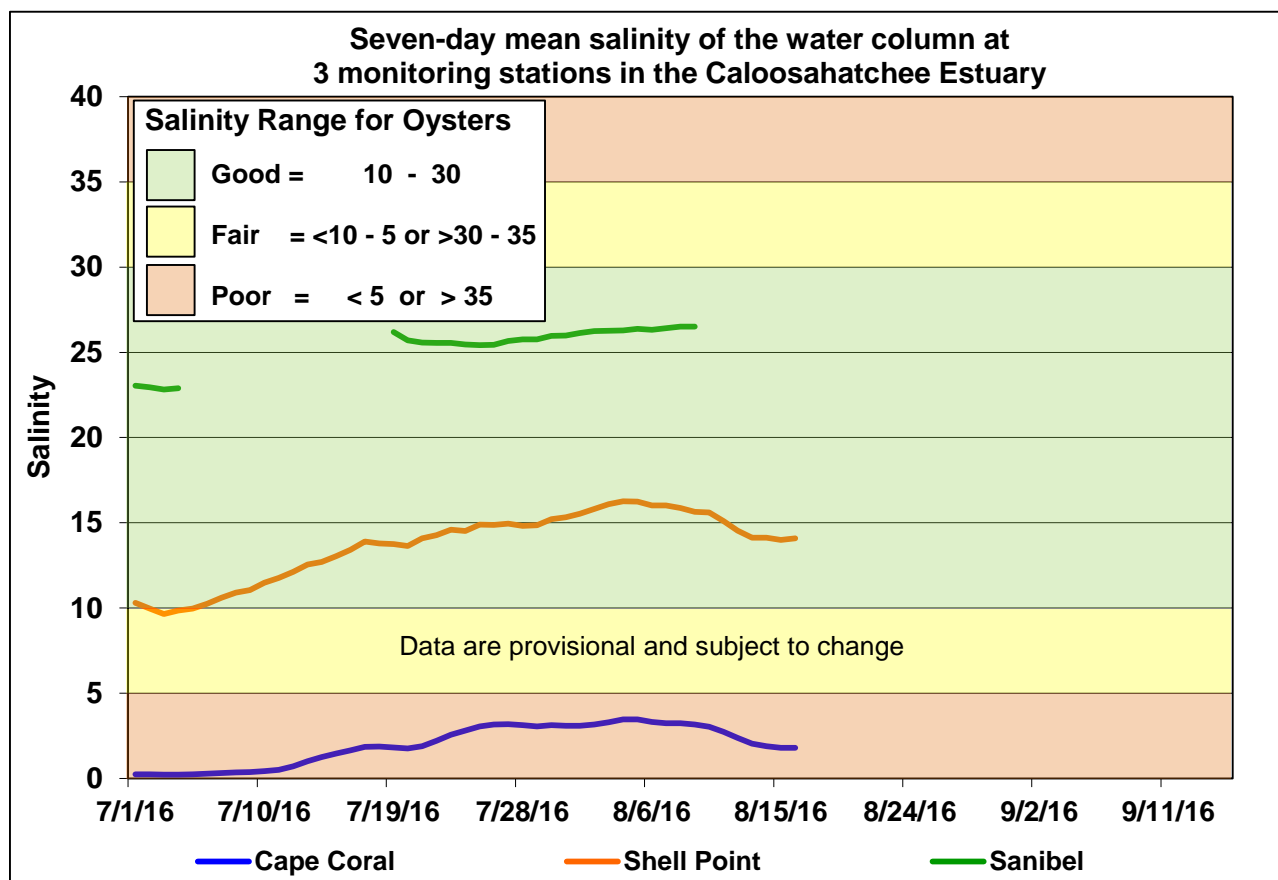
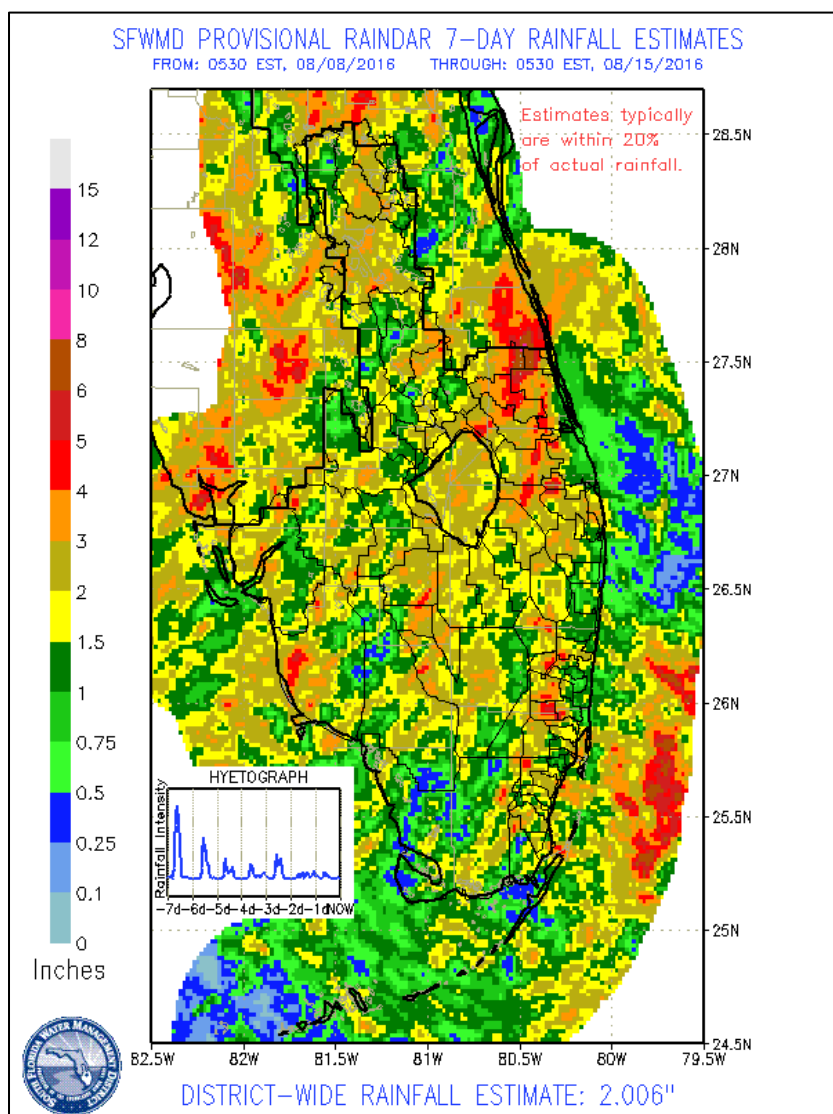


Figure 9. Seven-day mean salinity at Cape Coral Bridge, Shell Point and Sanibel Bridge monitoring stations.

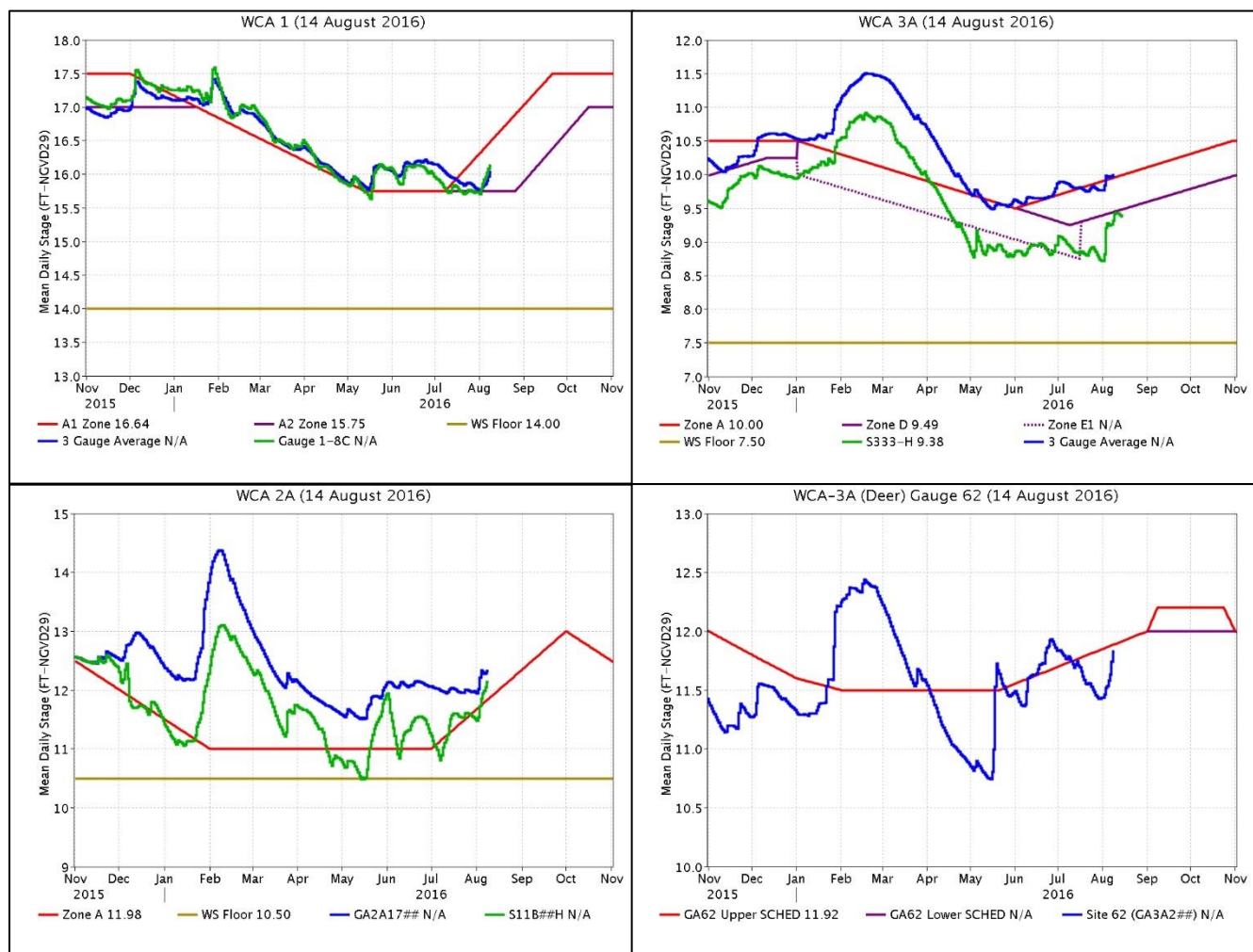
GREATER EVERGLADES

Rainfall was relatively high last week, with basin-wide averages ranging from 1.28 inches to 2.74 inches. The highest local rainfall of 5.02 inches occurred in WCA-3A. Pan evaporation was 1.58 inches, 14% above the pre-project average of 1.39 inches.

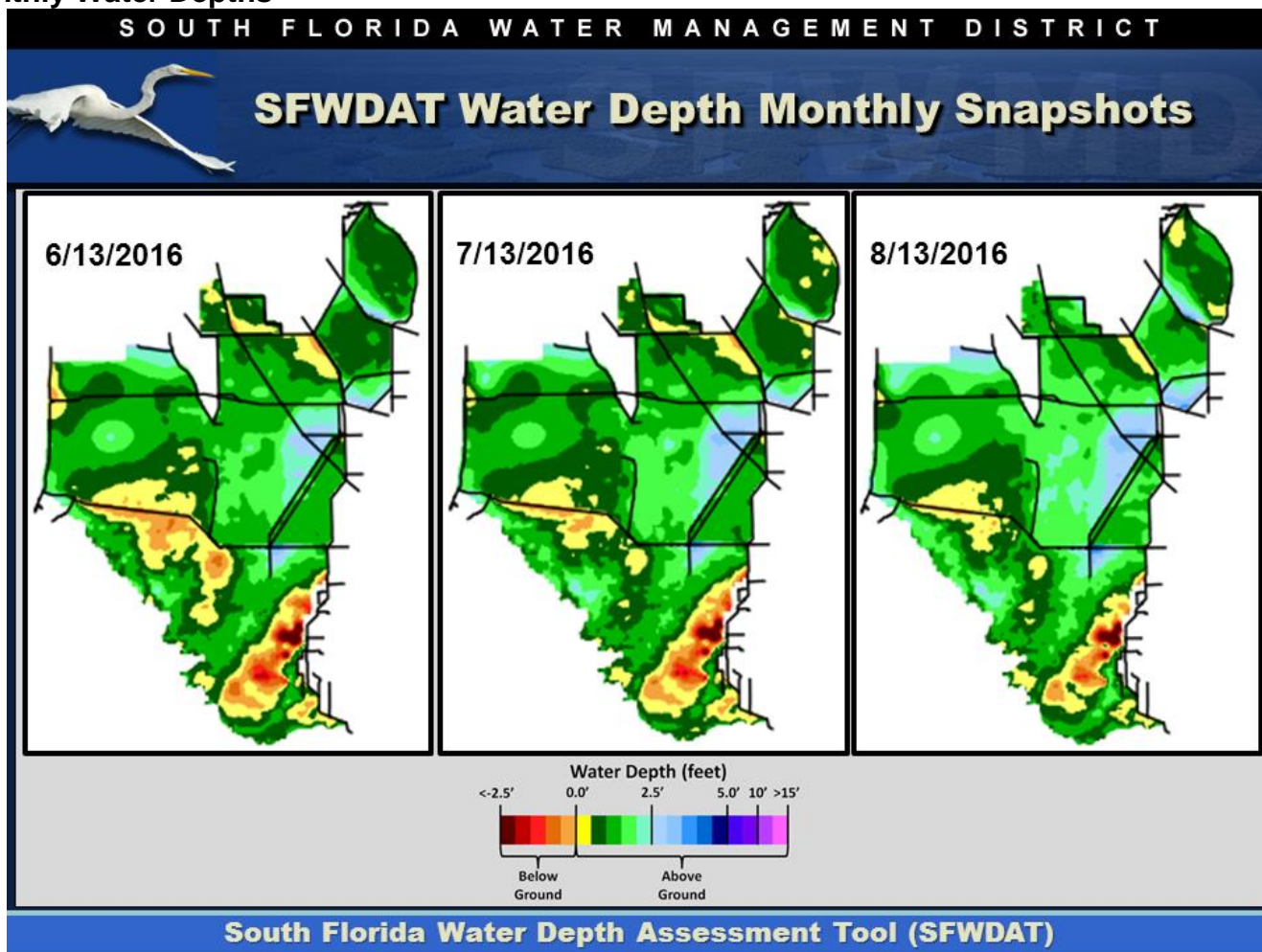
Everglades Region	Rainfall (Inches)	Stage Change (feet)
WCA-1	2.01	0.17
WCA-2A	2.14	0.35
WCA-2B	2.74	0.24
WCA-3A	1.89	0.08
WCA-3B	1.54	0.03
ENP	1.28	-0.06



Regulation Schedules:

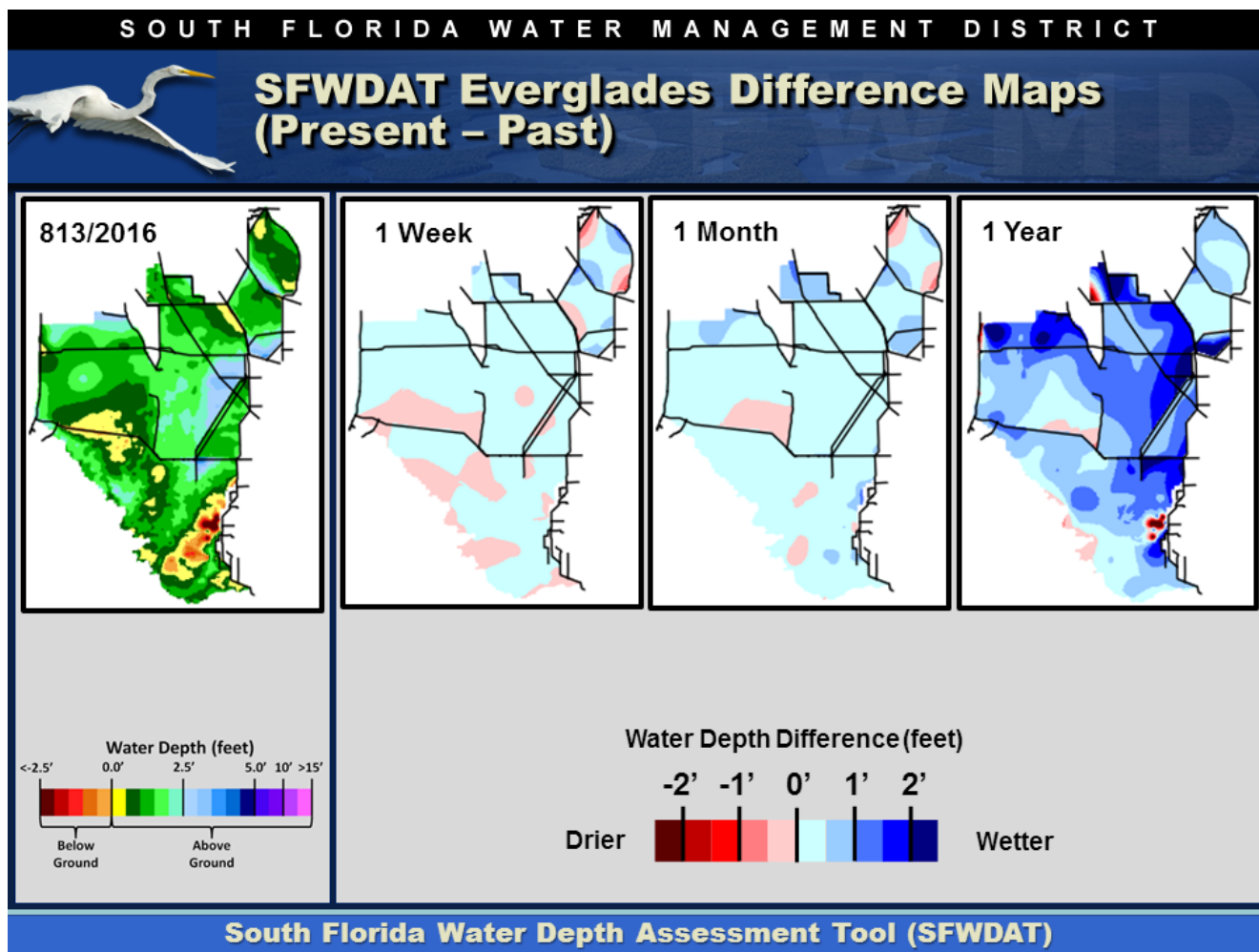


Monthly Water Depths



Water levels are higher than those in mid-July and mid-June. Water depths at monitored gauges other than in WCA-2B range from 0.99 inches to 2.19 inches. Following the recent high rainfall, the FWC conducted burns at six of the eight Active Marsh Improvement Project (AMI) sites in WCA-2A. The last two burns will be conducted late this week.

Water Depth Comparison (Current, One Week, One Month, and One Year)



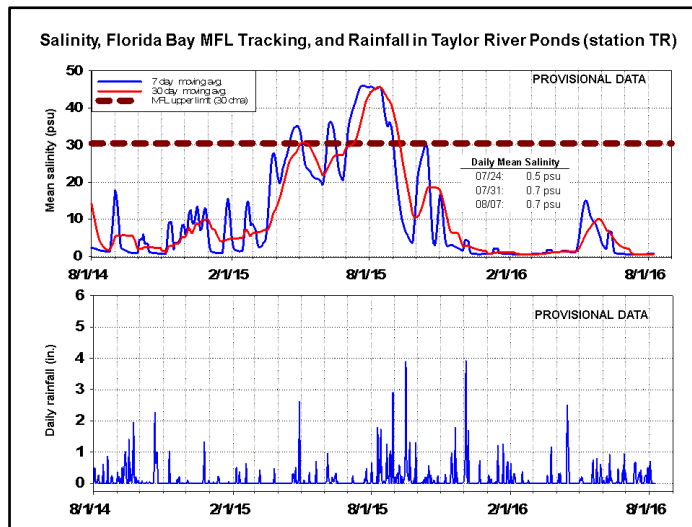
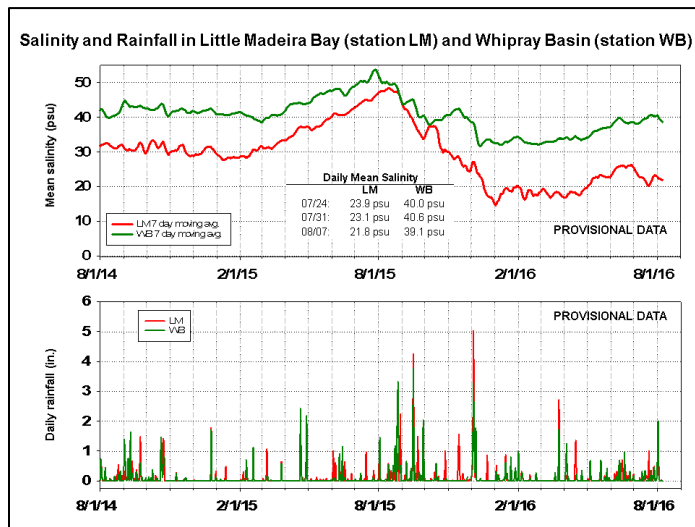
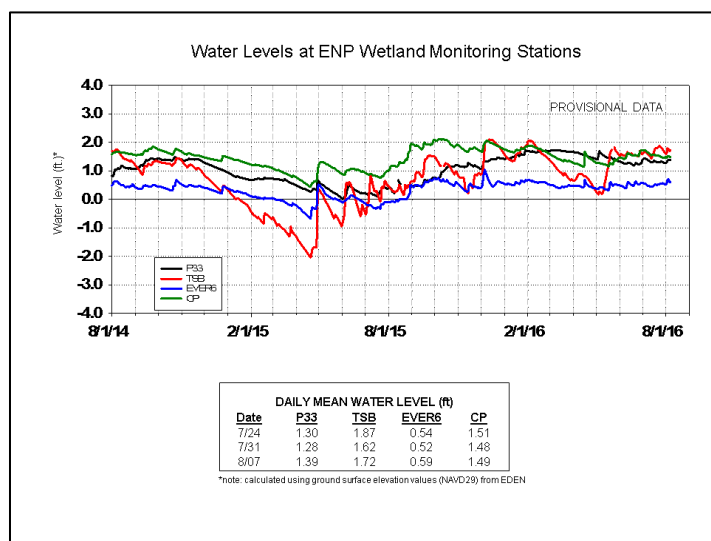
Cape Sable Seaside Sparrows

Ground surveys of subpopulations A and B will continue through August 15. The Sparrows appear to be nearly finished breeding for this year. Gates S-12A and S-12B were opened last week.

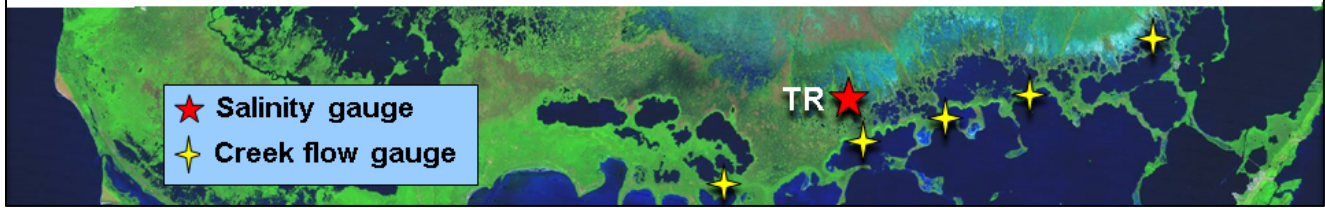
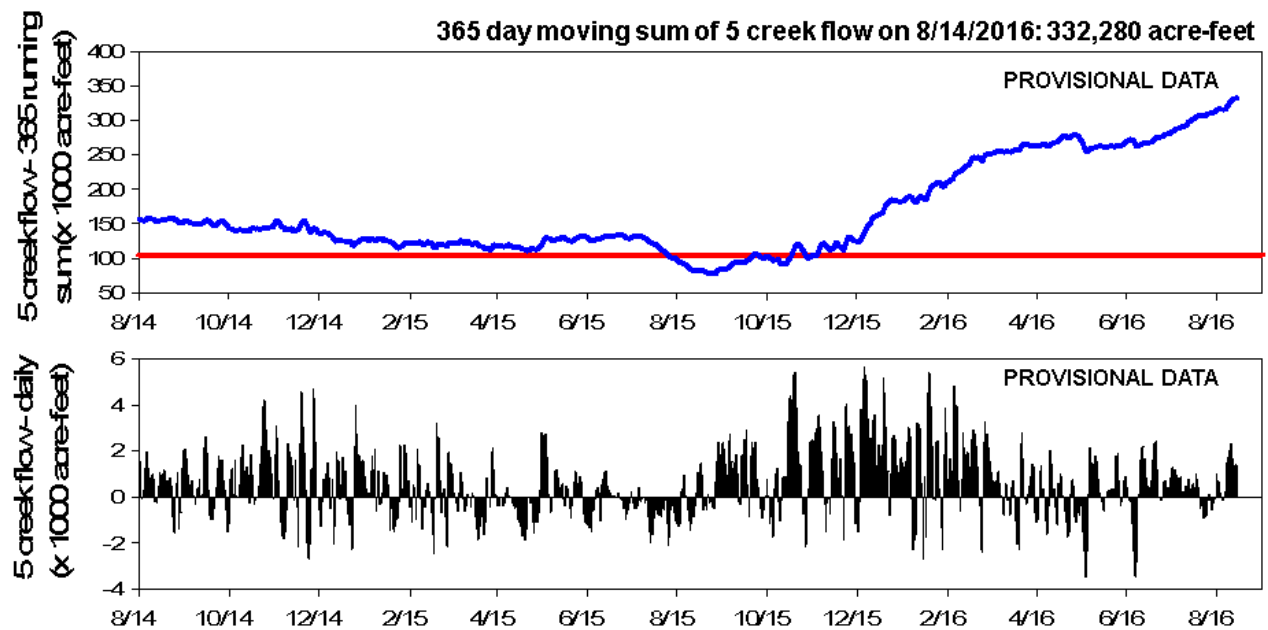
Everglades National Park (ENP) and Florida Bay

Water levels mostly increased last week with the rainfall. Stages in all areas are higher than a month ago, but the ENP panhandle area is lower than last week. All areas are 1 to 7 inches above average.

Salinities across Florida Bay range from four psu above average in the east to -4 psu below average in the central nearshore embayments. Daily average salinities still range from 16 to 39 psu with the highest salinity in central Florida Bay. The MFL sentinel site TR in the mangrove zone remains near fresh at 0.6 psu, and the 30-day moving average salinity at TR is also at a seasonal 0.6 psu.



5 Creek Cumulative Flow and Florida Bay MFL Flow Criteria Tracking



The 365-day running sum of the cumulative flow from the five creeks feeding Florida Bay has risen to 332,280 acre-feet (above the average of 257,628-acre feet). Creek flow is provisional data from the USGS and is highly variable.

Water Management Recommendations – Everglades and Florida Bay

Recommendations appear in the summary table below. The red text represents new or modified information or recommendations.

Everglades Ecological Recommendations, Aug. 16, 2016 (red is new)				
Area	Current Condition	Cause(s)	Recommendation	Reason
WCA-1	Stages rose 0'.11 to 0.27'	Rainfall, ET, management	Provide additional water to WCA-1. Limit ascension rates to a maximum of 0.25 ft/week.	Higher water levels are needed to reopen. Ascension rates of <0.25'/week will protect reproducing apple snails.
WCA-2A	Stage rose 0.35'	Rainfall, ET, management	Maintain ascension rates <0.25 ft/week. The two-week ascension rate has been 0.69 feet.	Ascension rates of <0.25'/week will protect reproducing apple snails, prey for endang
WCA-2B	Stages rose 0.22' to 0.26'	Rainfall, ET, management	Follow normal seasonal practices. Limit ascension rates to extent possible with a maximum of 0.25 ft/week. The two-week ascension rate has been 0.81 feet.	Ascension rates of <0.25'/week will protect reproducing apple snails.
WCA-3A NE	Stage rose 0.06'	Rainfall, ET, management	Increase inflow into northeastern WCA-3A. Increase ascension rates to extent possible with a maximum of 0.25 ft/week.	Water levels are too low in northeastern WCA-3A. Ascension rates exceeding 0.25'/week will protect habitat reproducing apple snails.
WCA-3A NW	Stage rose 0.16'	Rainfall, ET, management		
Central WCA-3A S	Stage rose 0.04'	Rainfall, ET, management	Limit ascension rates to extent possible with a maximum of 0.25 ft/week. Water depths at gauge 65 should remain below 2.5 feet over this upcoming wet season. When flows are changed a gradual reduction is recommended (stepping down over several days).	Keeping depths below 2.5' at gauge 65 is needed to protect vegetation to recover from stress of the reduction in duration. Ascension rates of <0.25'/week will protect reproducing apple snails.
Southern WCA-3A S	Stage rose 0.04'	Rainfall, ET, management		
WCA-3B	Stages rose 0.0' to 0.04'	Rainfall, ET, management	Follow normal seasonal practices. Limit ascension rates to extent possible with a maximum of 0.25 ft/week.	Ascension rates of <0.25'/week will protect reproducing apple snails.
ENP-SRS	Stage fell -0.06'	ET, rainfall, topography, management	Make discharges to the Park according to the ERTF rainfall plan.	Keep peat wet to promote native habitat animal communities.
ENP-CSSS habitats	S-12A and S-12B have been opened.	Rainfall, ET, management	Follow rainfall plan for releases. Gradual reduction in flows through S333, and the S-12 structures when they decrease is recommended (stepping down over several days). Follow guidance in C-111 western spreader canal project operations manual.	Sparrows have mostly ceased breeding to continue to provide appropriate hydrology for breeding in subpopulation A.
Taylor Slough	1 to 7 inches above average	Rain, ET, inflows	Move water southward as needed	Provide freshwater buffer for ecosystems conditions downstream
FB- Salinity	-4 psu below to 4 psu above average	Rain, ET, inflows, wind	Move water southward as needed	Maintain lower salinity levels.